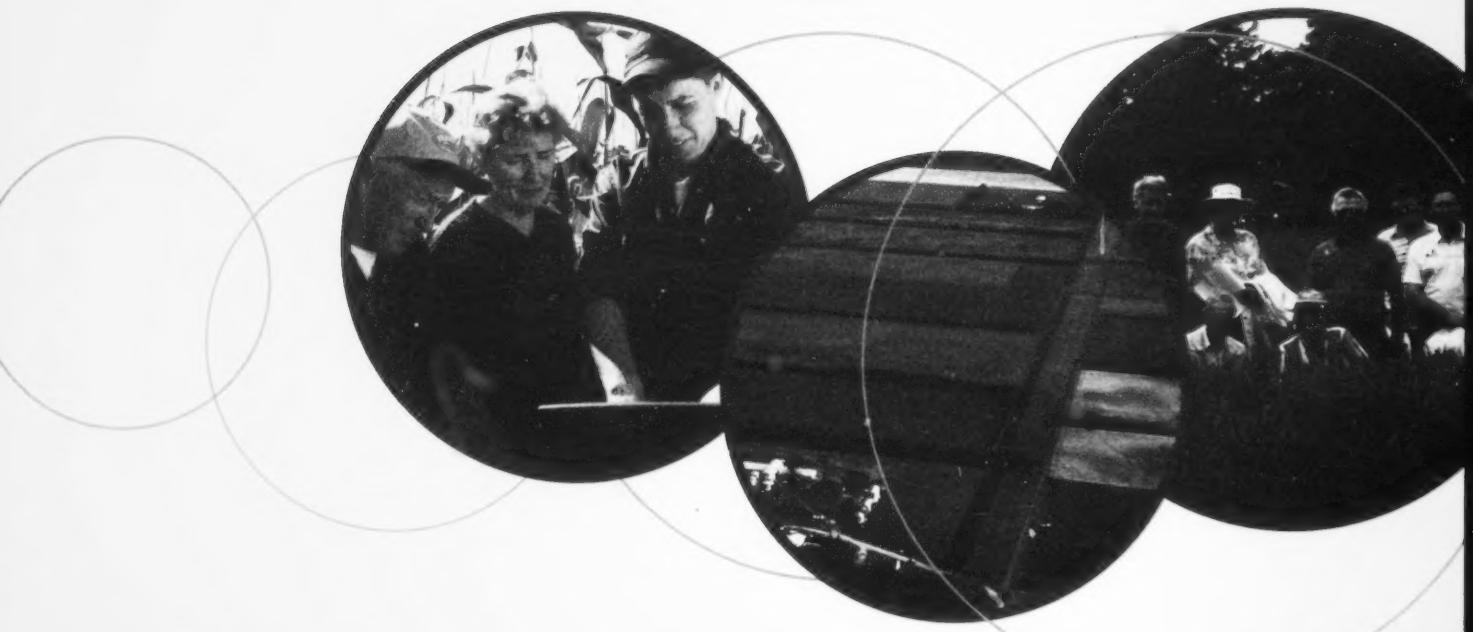
Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada

SUSTAINABLE DEVELOPMENT STRATEGY

Sustainable Agriculture: Our Path Forward



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From the Minister of Agriculture and Agri-Food Canada

Minister
Bob Speller

From its beginnings, Canada has depended on agriculture for a secure supply of wholesome and safe food. In today's world of constant change and challenge, of a growing world population sure to place even greater demands on our production in the future, the principles of sustainable development are more compelling for the agriculture sector and Agriculture and Agri-Food Canada (AAFC) than ever before.

Sustainable agriculture is now at the centre of AAFC's mandate. Building on the successes achieved and lessons learned in the course of implementing our first two sustainable strategies, *Sustainable Agriculture: Our Path Forward* addresses all three mainstays of sustainable development—environmental, economic, and social concerns. Our new strategy moves us beyond the mindset of crisis management to focus instead on the long view of an agriculture and agri-food sector that is sensitive to environmental stewardship and equipped to take advantage of new developments in knowledge, technologies, and markets. It also renews our commitment to be good stewards of the land and assets with which we have been entrusted.

The Agricultural Policy Framework, announced in June 2002, will accelerate our work toward sustainable agriculture in Canada. Indeed, the APF was constructed around sustainable development themes. It also puts into place a management system built on teamwork, partnership and innovation. We can expect to make progress in setting appropriate targets for our work and measuring how well we meet those targets. It is a natural and expeditious next step to accept the APF as our third sustainable development strategy, and I am pleased to endorse this initiative.

In moving forward with this strategy, we can expect to reap the benefits of streamlining the way we do business and building all that we do on the principles of sustainable development. Only by following these principles can we hope to balance agricultural and agri-food practices with environmental needs and take full advantage of the economic opportunities now opening up. In addition, we hope this will give producers and processors the support they need to remain productive and prosperous.

Sustainable development now has a clear focus and strong support in Agriculture and Agri-Food Canada. We invite all our stakeholders and other Canadians to join us in re-energizing our work toward sustainable agriculture in Canada and the world.

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Executive Summary

Introduction

This report presents Agriculture and Agri-Food Canada's third sustainable development strategy (SDS), aimed at supporting sustainable agriculture—producing and processing agricultural products in a way that can be carried out over the long term, in a manner that supports or enhances the high quality of life we enjoy in Canada today. The SDS aligns with the federal government's work thus far to develop a vision of a sustainable Canada, supports areas for sustainable development action, and describes horizontal action to cooperate with other departments on shared interests. The Department also commits to greening its own operations.

Significant progress has been made in reaching the objectives and implementing the strategic directions outlined in our second sustainable development strategy. Details of this progress, as presented in the 2003 Departmental Performance Report, are outlined in an annex to the SDS. As APF implementation advances, improvements in identifying measurable targets and assessing progress are expected.

The Agricultural Policy Framework—A New Departmental Approach to Sustainable Development

The recently developed Agricultural Policy Framework (APF), with its integrated environmental, economic, and social components, is presented as AAFC's third SDS, the ultimate goal being to integrate the two for streamlined accountability and reporting. This approach reflects a shift in direction aimed at enabling the agriculture and agri-food sector to adapt to a changing world. The shift is away from crisis management driven by the vagaries of weather and prices to a longer, more stable view with the global consumer as its focus.

An SDS is only as good as the management system that delivers it, and the Department is being transformed to better fit resources and structures in support of the APF vision. The vertical management model is being exchanged for a management model built on teamwork, partnership, and innovation. The APF and SDS will be carried out in five areas: Environment, Food Safety and Food Quality, Risk Management, Innovation and Renewal, and International Issues.

Hundreds of APF consultation meetings were held with relevant stakeholders, including the provinces, industry, non-governmental organizations, and producers. Consultations related to the APF in general and to specific APF components. The Agri-Environmental Advisory Committee was also consulted on aspects of the SDS.

Issue Scan

Environmental Issues

The environmental sustainability of Canada's agriculture is judged by how well it manages and conserves natural resources that support agricultural production and how compatible agricultural systems are with natural systems and processes. Agriculture is undergoing significant changes in response to evolving market demands, new production technologies, and a shift towards larger, more intensive operations. There are four critical areas where environment and agriculture intersect—water, soil, air and biodiversity. Priority areas identified for each of these areas are as follows:

Water – nutrient surpluses, the spread of pathogens, entry of pesticides, and water conservation
Soil – soil erosion and loss of soil organic matter
Air – particulate emissions, odours, greenhouse gas emissions
Biodiversity – habitat availability, species at risk, impact of wildlife.

Economic Issues

Agriculture and agri-food is a major part of the Canadian economy. The key area where economics and agriculture intersect is the assessment of income risk, with several factors at work: the forces of nature (drought, hail, insects), the politics of international trade, variations in markets, growing international competition, rapidly evolving consumer preferences, the threat of exotic pests and fast-moving diseases, and liability from potential environmental or food safety incidents.

Social Issues

Canada's agriculture and agri-food industry is integral to the Canadian identity, not only from an environmental or economic perspective, but also from a social perspective. The key areas where agriculture and social considerations intersect include demographics, skills and learning, food safety, international development, and the importance of strong rural communities.

The Agricultural Policy Framework: Addressing Environmental, Economic, and Social Considerations

Environmental Pillar: Securing Our Natural Resources for Today and the Future

Policy and Strategy Development – AAFC will provide the sector with consistent, science-based national environmental standards, and ultimately a farm environmental certification process for Canada.

Knowledge and Information – AAFC is developing tools that farmers need to make informed land-use management decisions through research on known gaps in water and nutrients, research to support on- farm environmental activities, the National Land and Water Information Service, and the National Agri–Health Analysis and Reporting Program.

On-Farm Results – Farmers will receive support in accelerating their efforts to address environmental challenges, and agriculture–environment interactions will be better understood through the Environmental Farm Planning Program, National Farm Stewardship Program, Greencover Canada Program, and National Water Supply Expansion Program.

Economic Pillar: A Strong and Prosperous Agriculture Sector

Food Quality and Safety – The APF commits to the economic-related goals of increasing consumer confidence in the safety and quality of food produced in Canada, increasing industry's ability to meet or to exceed market requirements for food safety and food quality, and providing value-added opportunities through the adoption of food safety and food quality systems.

Renewal – Renewal programing is aimed at helping farmers increase their profitability; make choices about sources of income; meet market and consumer demands respecting food safety, food quality, and environmentally responsible production; and capture opportunities from science and innovation.

Science and Innovation – Science and innovation activities support the many APF components that contribute to economic sustainability, such as environmental and food safety and quality initiatives, and help to create new business opportunities and improve productivity.

Business Risk Management – Consisting of four interconnected elements (Canadian Agricultural Income Stabilization Program, Production Insurance, Cash Advance programs, and Private Sector Risk Management Partnerships), the APF business risk management program assists farmers by stabilizing income, providing consistent, predictable disaster coverage, helping farmers distribute their income over the business year, and encouraging the development of private-sector risk management tools.

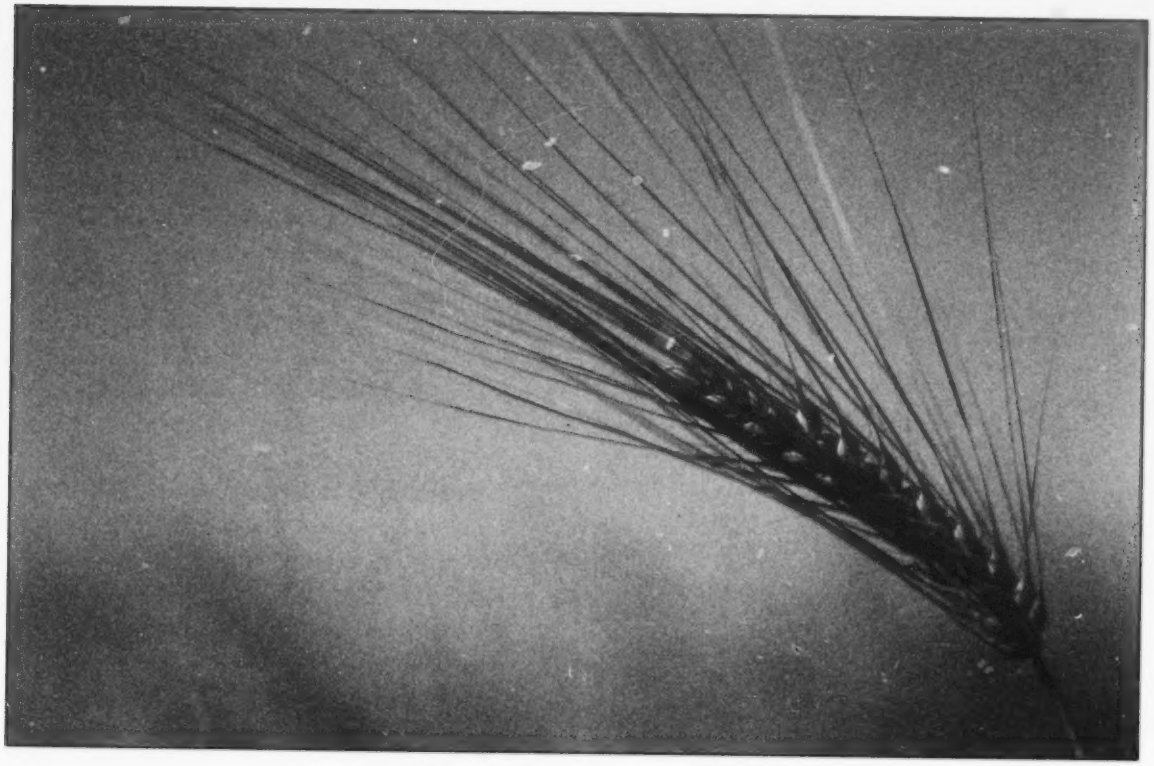
International – An international strategy built on the APF vision for Canada aims at fostering collaborative action from the entire value-chain, gaining recognition of Canadian agriculture and food products in the international market place, increasing foreign market services to Canadian industry, overcoming existing market barriers to trade, and receiving greater support for Canada's agricultural foreign policy agenda.

Social Pillar: Safe, Vibrant Communities Filled With Opportunities

Food safety – The Department's emphasis on food safety supports the wellness of consumers and minimizes the risk and impact of food-borne hazards on human health. Food safety is being enhanced through the use of Hazard Analysis Critical Control Point and traceability systems, which identify, evaluate, and control food safety hazards. AAFC is cooperating with Environment Canada to develop food safety standards, a pathogen surveillance program, and an antimicrobial resistance program.

Renewal – Built on the concept of continuous learning, the renewal component of the APF will help producers assess their situation; identify the type of learning, training, and skills they need for success during times of critical transition; and access a core set of national renewal programs and services.

International development – AAFC is collaborating with the Canadian International Development Agency and the Department of Foreign Affairs and International Trade to assess the needs of developing countries and to develop project proposals for international development initiatives related to agriculture and trade, aimed at helping these countries benefit from the global trading system, while satisfying the rising product standards and market demands of the developed world, including Canada.



Rural communities – The Department supports the Federal Framework for Action in Rural Canada, committing significant support to the Canadian Rural Partnership, aimed at creating the social, economic, and cultural climate within which rural Canada can thrive.

Leading By Example: A Department that Promotes Sustainable Development

AAFC is integrating sustainable development principles into its own operations by adopting green procurement practices; improving the management of waste, water, and waste-water; improving building energy efficiency; improving vehicle use; and adopting best practices related to land management, such as piloting the development of environmental farm plans for AAFC lands and taking appropriate steps to manage contaminated sites, storage tanks, and halocarbons. Environmental management programs are being developed and fine-tuned in priority areas, along with an Environmental Information and Performance Management System to support measuring and reporting progress against targets.

Setting Targets and Measuring Performance

To ensure that we are making the progress necessary to achieve our sustainable development and Agricultural Policy Framework objectives, Agriculture and Agri-Food Canada has developed a series of logic models related to the various elements of the APF agreement.

Introduction

Sustainable Agriculture

Sustainable development integrates environmental, economic, and social interests in a way that allows today's needs to be met without compromising the ability of future generations to meet theirs. In the agriculture and agri-food sector, sustainable development means a way of producing and processing agricultural products that can be carried out over the long term, in a manner that supports or enhances the high quality of life we enjoy in Canada today.

Sustainable agriculture:

- protects the natural resource base; prevents the degradation of soil, water, and air quality; and conserves biodiversity
- contributes to the economic and social well-being of all Canadians
- ensures a safe and high-quality supply of agricultural products
- safeguards the livelihood and well-being of agricultural and agri-food businesses, workers and their families.

Sustainable Development Strategies

To meet the commitment made under *Agenda 21* at the 1992 Rio Conference (*see* Box opposite), Parliament passed amendments to the *Auditor General Act* to create a legal requirement for certain federal departments and agencies, including Agriculture and Agri-Food Canada (AAFC), to prepare sustainable development

Evolution of a Concept

The concept of sustainable development has evolved over the past 30 years. In 1972 the United Nations Conference on Human Environment in Stockholm gave birth to the central themes of sustainable development—the interdependence of human beings and the natural environment, the links between economic and social development and environmental protection, and the need for a global vision and common principles. The World Commission on Environment and Development, or Bruntland Commission, established by the United Nations in 1983, built on these themes in its 1987 report Our Common Future, *and popularized the concept of sustainable development. In 1992, the pivotal* Agenda 21 *emerged from the United Nations Conference on Environment and Development in Rio de Janeiro, also called the Rio Conference, and has since served as a plan of action to make development socially, economically, and environmentally sustainable for the 21st century. As one of 178 nations to endorse this agenda, Canada committed to developing a national sustainable development strategy. Since 1992, nations have continued to hammer out the meaning of sustainable development and to find ways to put this concept into practice. The 1997 Earth Summit (Rio +5) and the 2002 Johannesburg World Summit on Sustainable Development created forums for ongoing discussion of this concept and its implementation.*

strategies, table them in Parliament, and update them at least every three years. The Government of Canada created the position of Commissioner of the Environment and Sustainable Development to monitor and report on the progress made on this front.

Agriculture and Agri-Food Canada released its first sustainable development strategy in December 1997 and its second in February 2001. This document presents the third sustainable development strategy.

Three main documents have guided the development of these strategies. The Government of Canada's *A Guide to Green Government* outlined the expectations for the first round of strategies, and continues today as the foundational guide. Lessons learned at that stage were captured in *Moving Up the Learning Curve: The Second Generation of Sustainable Development Strategies*, released by the Commissioner of the Environment and Sustainable Development to help shape the development of the second round of strategies. To assist in preparing the third round of strategies, the Commissioner offered *Sustainable Development Strategies—Making a Difference*, the expectations of which have guided the development of the sustainable development strategy described in this document.

A Federal Government Vision of a Sustainable Canada

In *Sustainable Development Strategies—Making a Difference*, the Commissioner called on the federal government to establish a vision of what Canada will look like after 20 years of sustainable development, and to clarify its priorities. The Government has responded with a draft *Vision Statement* and draft *Vision for 2025—The New Canadian Reality*, included in this document as Annex A. Work will continue to further develop this vision.

Vision Statement of the Federal Government for Sustainable Development

The Government of Canada is committed to a sustainable Canada that unifies environmental, social, and economic values and links today's decisions to tomorrow's well-being. Canada's future will be based on an innovative and robust economy; social equity; healthy, safe, and vibrant communities; and the stewardship of our natural environmental heritage. The federal government will be a world leader in the development and deployment of sustainable development practices and technologies, and shares its expertise with global partners to help build a sustainable world. Development decisions will be shaped by a sustainable development knowledge base that informs public debate and ensures integrated decision-making. Working in partnership with all levels of government, Aboriginal organizations, communities, the private sector, as well as national and international bodies, the Government of Canada will pursue sustainable development that strives to secure a high quality of life for all Canadians and the rest of the world, now and for generations to come.

Agriculture and Agri-Food Canada's third sustainable development strategy aligns with this federal vision, particularly attending to the following cross-cutting themes:

- sustainability as a way of life and business, with the long view in sight
- good decisions based on the best science and practices
- good examples by government in its own operations
- environmentally responsible resource use
- fiscal sustainability
- safety and security for all people; sustainable communities
- international commitment.

Aligning with Federal Priorities and Working Horizontally

Agriculture and Agri-Food Canada is working horizontally within the interdepartmental community to contribute to federal priority areas for action in sustainable development in the following ways:

- participation in developing a federal freshwater strategy
- cooperation with the interdepartmental community in following the government document *Sustainable Development in Government Operations: A Coordinated Approach* to green operations in six of the priority areas identified in that document—procurement, waste, water, energy, vehicle fleet, and land
- participation in developing a coordinated federal strategy for Canada to address, implement, and report on the Johannesburg Plan of Implementation, committed to by heads of state at the Johannesburg Summit in September 2002.

Our Department works horizontally in a number of other areas as well, including representation on the Environment and Sustainable Development Coordinating Committee and its various subcommittees, as well as collaborative work among the five natural resource departments. To deliver key program components of the Agricultural Policy Framework (APF), described below, we are developing memoranda of understanding with other departments, including Health Canada and Environment Canada. We continue to interact regularly with other natural resource departments within all our regions on the design and implementation of APF environmental programming. Collaborative work is also being done in implementing the Canadian Biodiversity Strategy. Further, AAFC was involved in the development of Action Plan 2000 and the

Climate Change Plan for Canada, and continues to work with other departments in their implementation.

To support the long-term sustainability and viability of communities, Rural Secretariat is involved in the following working groups: Sustainable Development Strategy for the North, Sustainable Development Strategy for First Nations, and Promoting Community Sustainability. It will function as a champion or enabler for the Northern Capacity Building Working Group, using program elements of the Canadian Rural Partnership, in particular the Rural Teams (a network of federal, territorial, and other organizations), to facilitate the process.

Greening Departmental Operations

Agriculture and Agri-Food Canada is concerned about how to control the impact of our activities on the environment and, as a federal department, we play a key role in the federal government's move toward sustainable development in its operations. We also make a significant contribution to the government's efforts to meet Canada's commitments under the Kyoto Protocol. In managing the many assets we own and operate—research centres, farms, community pastures, water supply systems, and a diverse fleet of on- and off-road vehicles—AAFC aims to lead by example to reduce our ecological footprint through reducing reliance on natural resources and minimizing the impact of our operations on the environment.

The Department's business lines have been realigned to facilitate and implement the Agricultural Policy Framework. This change elevates the importance of environmental issues within the Department and the sector, while strengthening the integration of sustainable development into departmental decision making related to its operations. It also ensures a more systematic departmental approach through the implementation of an environmental management system, as well as responsible performance reporting through the annual Departmental Performance Report and the Departmental Report on Plans and Priorities.

Stocktaking: Past and Present Strategies

Significant progress has been made in reaching the objectives and implementing the strategic directions outlined in our second sustainable development strategy. Departmental achievements related to each of the SDS objectives are detailed in Annex B. It has been more difficult to evaluate our success in reaching targets and producing specific outcomes, as these have not always been well defined in our strategies. We acknowledge that we are still on a learning curve. As APF implementation advances, we expect to get better at identifying measurable targets for the outcomes we desire, and assessing our progress in reaching these targets.

The Agricultural Policy Framework—A New Departmental Approach to Sustainable Development

With its third sustainable development strategy Agriculture and Agri-Food Canada is taking a new approach. The recently developed Agricultural Policy Framework (APF), with its integrated environmental, economic, and social components, *is* the department's sustainable development strategy (SDS).

Inception of the Agricultural Policy Framework

On June 20, 2002, Prime Minister Jean Chrétien and Minister of Agriculture Lyle Vanclief announced the Agricultural Policy Framework, an investment of $5.2 billion over six years to help take agriculture into the 21st century. The objective is to make Canada the world leader in food safety, innovation, and environmentally responsible food production. To realize this vision, governments have agreed in principle on an action plan for the APF composed of five elements:

- Environment
- Food safety and food quality
- Renewal
- Science and Innovation
- Business Risk Management.

Under the APF, farmers will have access to the tools they need to meet challenges in food safety and the environment. The renewal element offers a range of programming to help farmers acquire new skills, expand their businesses, and seek new opportunities. Science is being expanded beyond traditional productivity applications to deal with emerging challenges and opportunities in the bio-economy. Long-term business risk management programming will provide a stable and predictable planning environment.

Shift in Direction

The Agricultural Policy Framework is a comprehensive initiative with many elements but a single theme— enabling our agricultural sector to adapt to a changing world. The APF reflects a shift in direction that came about following a series of crises in Canadian agriculture during the late 1990s and 2000. Agriculture and Agri-Food Canada and the provinces were forced, year after year, to take short-term measures to help farmers deal with a significant drop in their incomes. As these events reached their peak, the federal agricultural minister requested that governments and industry together do some soul searching. Big questions needed to be asked. What is the future for agriculture in Canada? How can we move agriculture beyond crisis management? What are the ingredients for success in the 21st century world of agriculture? These questions brought telling answers.

First, it became clear that AAFC's focus for many years had been almost exclusively on the farmer, farm income, and production.

Many of the forces that affect the sector, including the impact of global markets and consumer trends, were not being attended to. A look at the challenges and opportunities ahead indicated that the global consumer had to be brought into the picture.

Second, global consumers are now making demands that go well beyond traditional notions of health and safety to incorporate a range of new requirements—wanting to know, for example, whether pesticides have been used in production or animals have been well treated. Today's consumer is more aware of sustainability issues than ever before, seeking assurance that the food they eat has been produced in an environmentally sustainable way. Public pressure for more stringent environmental practices is growing, whether for fertilizer use, pesticide use, manure management or habitat stewardship. Consumers are asking not only for ingredient lists on their food packaging, but also for information explaining the practices used in production. For agriculture to grow and remain prosperous, these trends need to be taken into account.

Third, with the traditional policy emphasis on producers and their production, departmental programming focused on safety nets designed to protect farm income when production failed or prices dropped. Risk management was seen in terms of income and fluctuating commodity prices. Today the frame of reference has expanded, and we understand that risk management is not just about short-term turns of weather, disease, and pests. A longer view—one that looks to reducing future risks based on a range of factors, including the environment, food safety, and animal health—is key to helping producers reduce the threat to their income.

Fourth, these consumer-driven trends have had a profound effect on the trade environment. In the past, trade discussions emphasized tariffs, subsidies, and quotas. In large measure this strategy is still used to protect domestic sectors, but more and more energy is now being devoted to overcoming technical barriers to trade. These barriers invariably revolve around issues such as food safety or quality standards, environmental issues, and other concerns. As traditional barriers to trade are resolved, new ones could spring up in the form of import prohibitions based on the food safety and environmental requirements demanded by consumers.

The Agricultural Policy Framework as a Sustainable Development Strategy

The Agricultural Policy Framework was put into place because Canadian agriculture and agri-food can no longer survive by moving from crisis to crisis. Only the long view offered by looking at agricultural production and processing through the lens of sustainable development spells hope for taking the sector safely and prosperously into the next era. As a result, the APF was born out of the realization that sustainable development is the only alternative for the security and growth of the sector. In keeping with this perspective, the framework effectively addresses all three pillars of sustainable development— environmental, economic, and social. These features form the basis for making the APF our third sustainable development strategy.

In *Sustainable Development Strategies—Making a Difference*, the Commissioner of the Environment and Sustainable Development noted that many departments lack the management structure needed to support their sustainable development strategies. By recognizing the APF as our SDS, Agriculture and Agri-Food Canada ensures that our efforts toward sustainable development, in our own operations and in the sector, are backed by a management model that supports this goal. Sustainable development becomes the overarching goal of all our undertakings.

The Commissioner also cautioned that federal departments may have a wide range of documents relating to sustainable development, creating the possibility of overlap and duplication and possibly sowing the seeds of confusion. By integrating the APF and our departmental SDS, this duplication and resulting confusion are eliminated, and requirements for accountability and reporting are streamlined. Targets in support of SDS goals and objectives are departmental targets. Meeting our SDS goals is the work of the whole Department—the work that we will be held accountable for and will chart in our annual reports.

Consultations and work carried out to develop our first two sustainable development strategies were used as a foundation to develop the APF. This ongoing work has allowed us to identify the long-term outcomes that are important to our department and sector, and to limit and focus our goals and objectives accordingly. Indeed, many of our goals have remained remarkably unchanged over the course of the three sustainable development strategies, giving a sense of continuity between our early and current sustainable development work.

Our Mandate, Strategic Plan, and Management Structure

Agriculture and Agri-Food Canada's mandate is to provide information, research and technology, and policies and programs to achieve security of the food system, health of the environment, and innovation for growth. The Agricultural Policy Framework directly reflects this mandate. The APF cannot be effectively delivered without implementing a correspondingly progressive and integrated management framework. The APF is changing not only what we do but also how we work. Our department is being transformed, with realignment of resources and structures to better support the vision of the APF. At the same time, the traditional world of vertical management structures is being traded for a management model built on teamwork, partnership, and innovation.

This management model translates into a departmental structure that includes five horizontal teams that encompass the APF priorities and an international component. Supporting these horizontal teams are seven enabling teams:

- Policy Analysis
- Human Resources
- Asset Management
- Communication and Consultation
- Information Systems
- Finance
- Program Delivery.

The Role and Fit of Our Sustainable Development Strategy

In the 2001 Speech from the Throne, the Government of Canada set out a commitment to move the agricultural sector beyond crisis management. The Agricultural Policy Framework is designed to do just that. In February 2003, the federal budget specifically pointed to implementation of the APF as a key priority. The APF is intended to be an all-encompassing framework for the Department. We are in a period of transition and currently not all of our activities are captured under the APF umbrella. Our ultimate goal is to ensure that all departmental initiatives, programs, and policy are compatible with the APF.

Though the APF represents fundamental change, the individual elements of the Agricultural Policy Framework are not new. In fact, industry and governments have been strong advocates for action on these elements in the past. What is new is the linking of these elements in a comprehensive approach that builds a solid platform from which the Canadian agriculture and agri-food sector can maximize its opportunities in the global marketplace, resulting in greater profitability through growth, diversification, and value-added activity. This policy framework also offers benefits to all Canadians—greater food safety and quality assurance systems from the farm through to the grocery store, accelerated environmental stewardship initiatives on farms, and the positioning of the second largest sector of the Canadian economy for even greater growth.

Consultations

Over the past two years, approximately 2000 organizations have been consulted in APF consultations held in every province and territory across Canada. Approximately 500 APF consultation meetings were held with stakeholders on the APF in general, as well as its specific components including the environment, food safety and quality, renewal, business risk management, science and innovation, and international work. As AAFC implements the APF, we are continuing to consult with Canadians. Beyond the extensive consultations held throughout the development of the APF, we have also consulted specifically on our SDS with the Agri-Environmental Advisory Committee.

For further information concerning the above APF and SDS consultative process, please contact:

Consultations Division, AAFC and
Environment Team, AAFC.

Issue Scan

Environmental Issues

Canada is the second largest country in the world, with a land area of more than 900 million hectares, but less than one-tenth of this area is farmed. Of about 68 million hectares of farmland in use across Canada, 61 percent is used for cultivation, 29 percent for pasture, and 10 percent for other uses. The main factor restricting crop and livestock production in Canada is climate.

Agriculture's long term success depends on its ability to co-exist sustainably with the natural environment. Farmers understand this well. However, agriculture has undergone significant changes in response to evolving market demands, new production technologies, and a shift towards larger, more intensive operations. Although the full effects of these changes on the environment are not completely understood, recent studies show that some key pressures related to agriculture are on the rise. Public awareness and concern about these issues are also growing. Canadians expect all economic sectors, including agriculture, to do their part to protect the environment.

Agroecosystems begin as natural ecosystems and develop under human manipulation. Even under this manipulation they have much in common with natural systems, sharing soils, water resources, natural nutrient supplies, and solar radiation and other aspects of climate. Without the presence of certain natural components, agriculture could not take place at all. The two main criteria used to judge the environmental sustainability of Canada's agriculture are how well it manages and conserves natural resources that support agricultural production and how compatible agricultural systems are with natural systems and processes.

With this in mind, there are four critical areas where environment and agriculture intersect—water, soil, air, and biodiversity. Priority issues identified for each of these areas are as follows.

Water

Nutrients

Nutrients are applied to crops in the form of chemical fertilizers or manure. Used sustainably, these inputs help maintain soil health and increase productivity and economic returns. However, applied in excess or under the wrong conditions, they may contribute to the pollution of surface water and groundwater, negatively affect yields, and waste farm resources. Some excess nutrients, such as nitrates, can pose a human health risk when concentration levels in drinking water exceed guidelines.

Pathogens

Pathogens are disease-causing agents, such as bacteria or viruses. Where pathogen concentrations from agricultural outputs (such as manure run-off into water systems) exceed drinking water guidelines for surface water or groundwater, negative effects on human health may result.

Pesticides

Controlling pests and diseases is fundamental to the production of safe, high-quality, and abundant agricultural products for Canadians. Pesticide residues can make their way into water systems, where they may pose a threat to human health and local ecosystems.

Water conservation

The sustainable use of water requires that withdrawal rates from water sources not exceed recharge rates or compromise other water uses. On a national level, agriculture uses about nine per cent of the water withdrawn in Canada, mainly to grow crops, water livestock, clean farm buildings and equipment, and meet domestic needs. Although agriculture returns less than 30 percent of the water it uses to its source, a much higher percentage is indirectly returned to the environment.

Soil

Soil erosion

Soil erosion is the redistribution of soil in the landscape by agents such as wind, water, and tillage. The effects of soil erosion on crop quality and yields can be substantial. Erosion may also negatively affect off-farm air and water quality, as well as wildlife habitat.

Soil organic matter

Loss of soil organic matter leads to the depletion of soil organic carbon. This results in the breakdown of soil structure, greater vulnerability of the soil to erosion, and reduced fertility. These factors lead to reductions in yield and sustainability of the soil resource. Increased decomposition of soil organic matter contributes to rising levels of atmospheric carbon dioxide, a greenhouse gas that has been implicated in global warming and climate change.

Air

Particulate emissions

Farms emit particulate matter as primary particles (most commonly dust from soil erosion and cultivation, and smoke from burning crop residue) and secondary particles (formed in the air from gases emitted by agriculture, such as ammonia). Exposure to particulate matter may have adverse effects on ecosystems and human health.

Odours

Farm odours can cause significant conflict between farmers and neighbouring communities. In some areas such conflicts have given rise to municipal action to control the siting of intensive livestock operations.

Greenhouse gas emissions

About 10 per cent of Canada's human-produced greenhouse gas emissions come from agricultural production, excluding the use of fossil fuels or the emissions from fertilizer production. The main greenhouse gases emitted by agricultural activities are nitrous oxide, from fertilizer and animal manure, and methane, from cattle and livestock manure. Carbon dioxide is also emitted from soils and energy combustion. However, agriculture also has the ability to remove carbon dioxide from the atmosphere through cultivation practices which reduce disturbance to soil and enhance the build-up of organic carbon in the soils. Greenhouse gas emissions contribute to climate change.

Biodiversity

Habitat availability

Loss and alteration of habitat are the leading causes of depletion of the earth's wildlife

species, and biodiversity. Conversion of natural land to agriculture has contributed to declining wildlife habitat. However, agriculture offers better habitat than many other land uses by humans, such as urban development.

Species at risk

The protection of threatened and endangered species is a priority issue both within Canada and internationally. As of May 2000, the Committee on the Status of Endangered Wildlife in Canada determined that 12 Canadian species are extinct and an additional 341 species are at risk. These numbers do not reflect the status of the many invertebrates, micro-organisms, and lower plants that have not yet been evaluated. Many of these species are important agents in the regulation of the ecological processes that underpin sustainable agriculture.

Impact of wildlife

Wildlife on farmland offer advantages, such as pollination, predation of crop and livestock pests, aesthetic appeal, hunting, and fishing. They also pose some disadvantages, such as reduced crop yield, livestock kills, and damage to buildings.

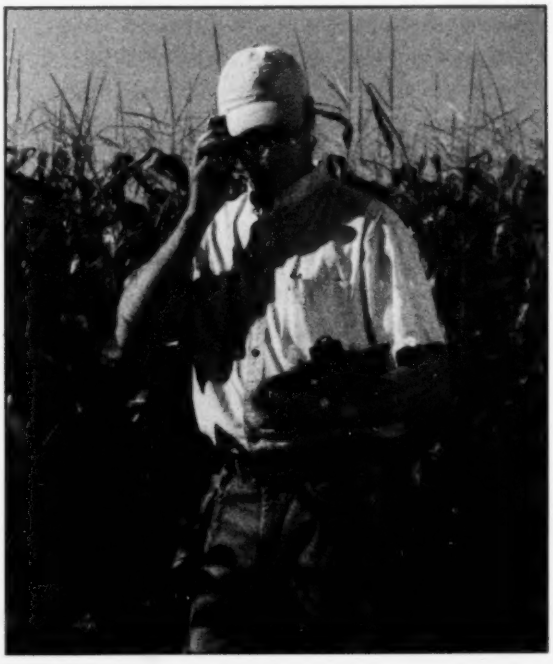
Economic Issues

Agriculture and agri-food is a major part of the Canadian economy. The importance of the sector varies across the country, as does the mix between primary production and food processing. The agriculture and agri-food sector is highly export-oriented, contributing $5 to 7 billion to Canada's trade balance annually and accounting for 10 per cent of the total Canadian trade surplus in 2000. Agri-food exports have doubled over the past decade, with value-added goods accounting for two-thirds of this increase. Today, one-half of all exports are value-added, processed goods.

For the average farm, realized net income fluctuated over the 1990s, although government program payments helped to minimize these variations. During the same period, producers' average net worth remained relatively stable.

Although only one-third of farms are large, with sales over $100,000, these farms account for 87 per cent of farm production. Small and medium-sized farms account for one-third of Canadian farms, but only 12 per cent of production. Hobby farms comprise the remaining one-third of farms; hobby farming is a lifestyle choice and usually makes no significant contribution to family income. Off-farm income is significant for most farm families.

The key area where economics and agriculture intersect is the assessment of income risk. Several factors may pose a threat to a farmer's income: the forces of nature (e.g., drought, hail, and insects), the politics of international trade, variations in markets, growing international competition, rapidly



evolving consumer preferences, the threat of exotic pests and fast-moving diseases, and liability from potential environmental or food safety incidents.

Income Risk

Forces of nature

Extreme natural events such as drought, hail, and insect population explosions can have a significant impact on farmers' income. In 2001, for example, drought was experienced to some degree across Canada. Back-to-back droughts on the Prairies in 2001 and 2002 slowed production growth for some crops with value-added potential and created uncertainty for potential investors in processing plants. Droughts have driven home the importance of sustainable farming practices and income stabilization programs.

Politics of international trade

Protectionist agriculture policies in other countries, such as trade-distorting domestic support and export subsidies, remain an impediment to expanding world agricultural and agri-food trade. For example, the US Farm Bill and European Union agricultural policies stimulate production and put downward pressure on commodity prices, affecting the competitiveness of Canadian exports in these markets.

Variations in markets

Markets are not immune to price swings. Producers must cope with changes in commodity prices and market preferences, which are often difficult to predict.

Growing international competition

Competition in international markets is growing, with implications for both the sector and Canadian agricultural policy. One of the most significant effects of technological change and greater competition is the long-term decline in most commodity prices. Increasing world supply has added to the pressure on prices. Low-cost producers, such as Brazil and Argentina, have significantly increased production in the past 10 years, using their low costs to increase their world market share despite relatively low levels of government support.

Rapidly evolving consumer preferences

Consumer preferences are evolving, and the ability to deliver products that meet consumer expectations is becoming more important. Greater public concern about food safety issues is raising awareness in the sector of the need to adopt common industry standards at the farm and processor levels. As well, consumer interest in how agricultural products are produced, including potential environmental impacts, is growing. This interest is creating new market opportunities for agricultural products produced in environmentally friendly ways, such as organic and reduced-pesticide production.

Threat of exotic pests and fast-moving diseases

Outbreaks of diseases or pathogens within the food production and processing chain were once isolated in small areas. Today's intensive farming and the greater movement of goods and people have made such threats much more difficult to contain. As a result, outbreaks—whether arising from natural causes or bio- terrorism—can spread throughout a country and around the world in a remarkably short time.

Liability from potential environmental or food-safety incidents

The contamination of water supplies in Walkerton, Ont., in May 2000 clearly demonstrated the need for environmental accountability. Although the farmer involved in the Walkerton case was found to have exercised his stewardship role and had a documented environmental farm plan to prove it, Walkerton brought the importance of environmental accountability to the forefront.

Social Issues

Canada's agriculture and agri-food industry is integral to the Canadian identity, not only from an environmental or economic perspective, but also from a social perspective. Canadians who make up the agriculture and agri-food sector reside mainly in Canada's rural communities. Although, over time, there has been a trend towards significantly larger farms, 98 per cent of all farms are still family-owned and-operated. The sector prides itself as a supplier of safe, high-quality food around the world, and is committed to issues of food safety and international development. This position is not solely an economic one, but also addresses concerns related to world health and the provision of the basic necessities of life, such as food aid, to those less fortunate.

The key areas where agriculture and social considerations intersect include demographics, skills and learning, food safety, international development, and the importance of strong rural communities.

Demographics

According to the 2001 Census, the job of running the farm in Canada is increasingly falling to fewer and older farmers. The total number of farm operators declined by 10 per cent between 1996 and 2001, from 385 600 to 346 200. The share of farmers under the age of 35 dropped from 20 to 12 percent between 1991 and 2001, while that of farmers 55 years of age and older grew from 32 to 35 percent. Farm operators also have a median age much higher than the comparable labour force population of self-employed workers. Although reductions in the total number of farmers may reflect increased productivity in the sector, a lack of younger workers entering the field may cause labour shortages in the future.

Skills and learning

With all the new technologies, products, and innovative practices being introduced, farm operations require an expanded knowledge base. As well, the pressures to meet environmental and food safety requirements, along with the need to plan for and deal with the potential for pest or disease outbreaks or natural disasters, demand more on-farm knowledge and skills.

Many of the skills necessary to operate a farm are passed from generation to generation. A 2001 survey found that 78 per cent of farmers in Canada started farming alongside a more experienced farmer. This informal apprenticeship has worked quite well, but there is a need to build on this mentoring tradition. Producers with a post-secondary education are more likely to participate in farm management training activities, but many effectively acquire skills and knowledge through interactions with family, the media, the Internet, neighbours, and public- and private-sector advisors. The challenge for governments is to identify pathways for skill development for those producers who do not feel comfortable in structured or formal learning environments.

Food safety

Food safety is a basic requirement for a modern food system. Surveys show that food safety is a key consideration for Canadians who are demanding greater assurances about the food they eat. Recent high- profile incidents involving BSE in Europe and Canada, dioxin contamination in Europe, and E. coli 0157:H7 in hamburger and unpasteurized juice in North America underline the importance of food safety. Such incidents have notable economic and social consequences, causing significant monetary loss for the sector, and, in some cases posing serious health risks.

International development

True sustainable development requires action at a global level. Countries throughout the world face the need to make their agriculture sectors more sustainable. For developing countries and economies in transition, this challenge is made more difficult by the lack of resources and infrastructure. With a strong economy and a well-developed agriculture sector, Canada is in a position to help these countries and their farmers by providing expertise and financial resources.

Rural communities

Canada's foundation—now, as in the past—is the strength and vitality of its rural communities. Rural Canada makes a valuable contribution to Canada's economy and to the nation's social cohesion. About one-third of Canadians live in rural and remote communities, supporting and sustaining a rural economy that underpins the urban economy and shouldering much of the responsibility of managing Canada's natural resources wisely. Agricultural producers and their families, for the most part, make their homes in these communities.

Rural and remote Canada is characterized by a natural resource economy that generates almost 15 percent of Canada's Gross Domestic Product and 40 per cent of exports. Canadians also benefit from the tourism, amenities, and natural attractions available in rural settings.

Rural people share many interests, goals, and needs with city dwellers, but they also have unique challenges. Many rural communities have seen their populations falter as employment opportunities decline. An important goal of sustainable rural development is building the capacity of rural people and communities to determine their own futures.

The Agricultural Policy Framework:

Addressing Environmental, Economic, and Social Considerations

The following three sections of this report outline how Agriculture and Agri-Food Canada is addressing environmental, economic, and social considerations through the Agricultural Policy Framework. A fourth section examines how we intend to lead by example through greening our own operations.

Although APF programming is presented separately for the three themes of environmental, economic, and social sustainability, it is important to note that each of the five APF components contributes to more than one of the three pillars of sustainable development. For example, if we are successful in addressing environmental goals, we will be better able to market our products to consumers both domestically and internationally. In fact, environmental sustainability will then be part of the Canada brand. As another example, from a social perspective, environmental preservation adds to the aesthetic beauty of the country, bolstering tourism and allowing Canadians to enjoy rural landscapes and recreational settings.

Environment Pillar:

Securing Our Natural Resources for Today and the Future

Agriculture in Canada, as in many other countries, has undergone significant changes in response to market demands, new production technologies, a shift towards more intensified operations, and advances in science, such as biotechnology. The effects of these changes on the environment are not fully understood, but studies show that some key environmental pressures arising from agriculture are becoming a greater concern.

In the past, federal and provincial governments have responded to agri-environmental pressures more or less independently and on an ad hoc basis. The resulting patchwork of programs and activities across the country hampers our ability to provide the industry with a consistent national approach, or to brand Canada as the world leader in environmental stewardship. For these reasons, federal, provincial, and territorial ministers of agriculture agreed as part of the Agricultural Policy Framework to accelerate action in the priority areas of air, water, soil, biodiversity, and farm environmental management (see Box on environmental goals).

To facilitate improvements in agricultural environmental stewardship, AAFC will be investing at least $650 million over the next five years. This investment makes it possible to refocus and integrate environmental programs to ensure maximum benefits through realigning AAFC resources, enhancing existing programs, and adding new programs. One important aspect of the APF is the use of targets and indicators to monitor performance and report progress to citizens.

The success and sustainability of Canada's agricultural and agri-food sector depends on its ability to co- exist with the natural environment. The interlocking programs set out in the APF will allow the Department, our provincial counterparts, and the sector to develop a comprehensive approach to improving the sustainability of agriculture in Canada. By setting clear goals that are linked to a well-developed indicator system, APF environmental programs allow AAFC to continually refine efforts towards a sustainable sector.

ENVIRONMENTAL OUTCOME AND MANAGEMENT GOALS UNDER THE AGRICULTURAL POLICY FRAMEWORK

- Reduce agricultural risks and provide benefits to the health and supply of water in the key priority areas of nutrients, pathogens, pesticides, and water conservation
- Reduce agricultural risks and provide benefits to the health of soils in the key priority areas of soil organic matter and soil erosion caused by water, wind, or tillage
- Reduce agricultural risks and provide benefits to the health of air and the atmosphere in the key priority areas of particulate emissions, odours, and emissions of gases that contribute to global warming
- Ensure compatibility between biodiversity and agriculture in the key priority areas of habitat availability, species at risk, and economic damage to agriculture from wildlife
- Complete a basic agri-environmental scan on all farms to identify farms and regions requiring corrective action
- Complete an agri-environmental farm plan or participate in an equivalent agri-environmental plan for all farms identified as requiring significant corrective action under the basic agri-environmental scan
- Implement an agri-environmental farm plan or equivalent agri-environmental plan and improve stewardship through the adoption of environmentally beneficial practices related to nutrient, pest, land and water, nuisance, and biodiversity management as appropriate to the needs and circumstances of individual farms or regions.

To realize our environmental goals, AAFC will implement several new activities and programs, categorized as:

- Policy and Strategy Development
- Knowledge and Information
- On-Farm Results.

Policy and Strategy Development

Policy and Strategy Development aims to provide the sector with consistent, science-based national environmental standards, and ultimately a farm environmental certification process for Canada. It consists of the following program area: Development of Agricultural Standards (including Farm Certification).

Development of Agricultural Standards (including Farm Certification)

This initiative will provide a sound framework for environmental farm certification through the examination of existing tools, including regulations, standards, best practices, and codes of practice, as well as the development of additional tools where appropriate. Three components make up this element.

AAFC will first undertake a national study of regulations to examine the way in which jurisdictions regulate agriculture with respect to the environment, with the goal of sharing best practices. The second phase will include development of standards for integration into management systems and practices used by industry. Standards will aim at reducing agricultural risks and improving the health and supply of water, the health of soils, and the health of air and the atmosphere, as well as fostering compatibility between biodiversity and agriculture. Standards will provide consistent, science-based tools to support the agriculture and agri-food sector in achieving recognized progress in the key outcome areas of air, water, soil, and biodiversity. Standards development will be undertaken in collaboration with Environment Canada.

Developing Environmental Standards that Support Common Environmental Objectives and Environmental Farm Certification—Implementation Phases

Phase 1

- Identification of priorities for action based on analysis of existing standards, emerging issues, and other related work.

Phase 2

- Development or refinement of standards that define acceptable environmental farm practices and desired levels of environmental quality.
- Creation of links to existing programs.

Program Outcomes

- Consistent, science-based national environmental standards for agriculture that specify environmentally appropriate results and practices for agriculture and help communicate on-farm environmental performance to consumers.

The combination of regulatory review and establishment of standards will inform the development of a farm environmental certification process for Canada.

Knowledge and Information

Knowledge and Information will allow us to build the tools that farmers need to make informed land-use management decisions. This thrust consists of the following four program areas: Research Gaps in Water and Nutrients, Research to Support On-farm Environmental Activities, National Land and Water Information Service, and National Agri-Health Analysis and Reporting Program.

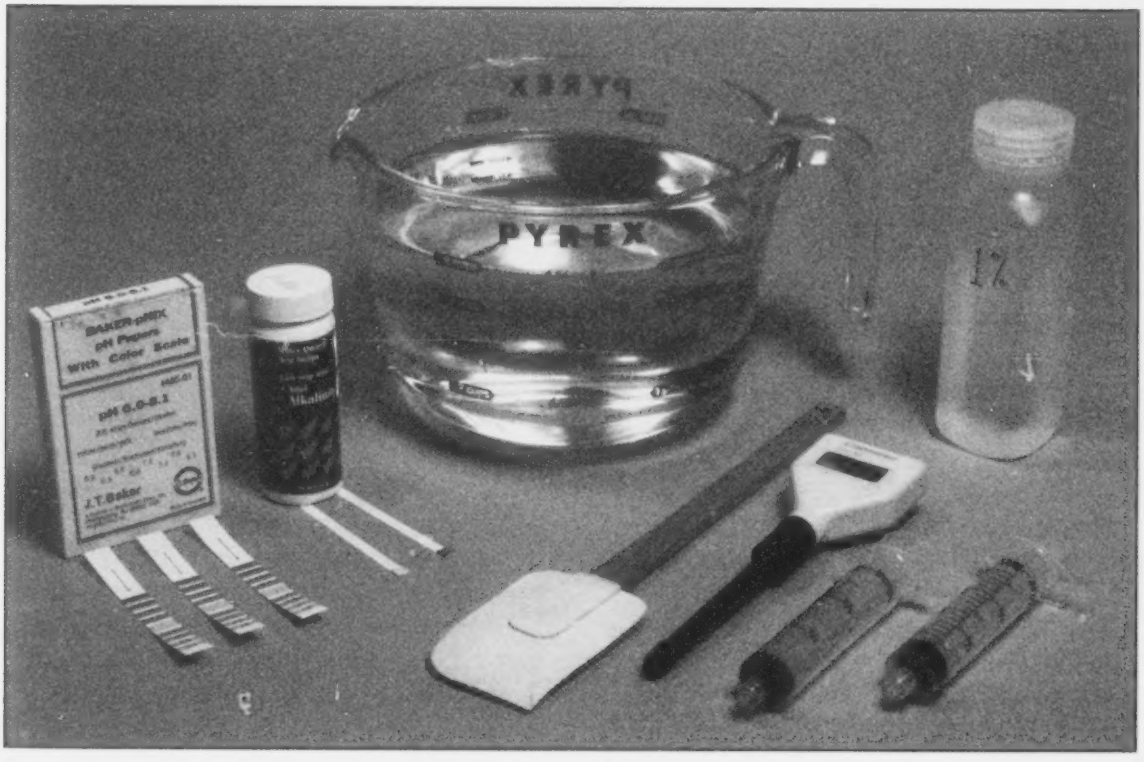
Research Gaps in Water and Nutrients

This research is aimed at identifying and understanding activities by agricultural producers which negatively impact soil, water and air by measuring the impact of nutrients, all manures, other organic residues and pesticides.

Research to Support On-farm Environmental Activities

This research is aimed at identifying and assessing new technologies and farming practices that maintain and enhance the health of the environment and natural resources associated with agricultural production. Information on these technologies will be produced for the benefit and use of stakeholders in the agriculture sector. Four components comprise this research: Farming Systems and Practices, Technology Assessment Program; Water Quality Surveillance Program; and Sharing Knowledge Internationally.

Farming Systems and Practices Component:
Research and development will be conducted to increase scientific understanding of the interactions between agriculture and the environment, leading to the generation of new knowledge and the development of environmentally beneficial agricultural technologies. The emphasis is acquiring



fundamental information to increase our understanding of the interactions of nutrients, pathogens, and pesticides with water, air, soil and biodiversity in different farming systems. Enhanced understanding and information will be useful in formulating new management practices that balance environmental, economic, and social concerns.

Environmental Technology Assessment for Agriculture: This program is being established to assess innovative environmental technologies that maintain and enhance the health of natural resources associated with agricultural production, and to provide information on these technologies for the benefit and use of stakeholders. The program will help facilitate the adoption by farmers and industry of new sustainable technologies, and reduce the risk of soil, water, and air contamination, as well as impacts on biodiversity. Multi-disciplinary teams of farmers, industry, AAFC scientists, non-government scientists, and/or professionals will be eligible for funding under the program. Assessment projects will be established on real model farms representing dairy, swine, poultry, feedlots, cow/calf operations, and mixed-crop production systems. These model farms will be chosen in collaboration with national producer organizations for representative climates and soil zones of Canada.

Water Quality Surveillance Program: A risk assessment will be undertaken to develop a better understanding of microbiological contaminants in agricultural run-off or effluent at locations where drinking-water sources and recreational bathing beaches may be affected. The focus is waterborne pathogens that cause human illnesses. Results will be used to develop more effective control mechanisms, which will reduce risks to human health. This program will be undertaken in collaboration with Health Canada.

Research and Technology Assessment—Implementation Themes

Themes

- **Research focuses on known gaps related to areas such as nutrients and water.**
- **New knowledge focuses on environmentally beneficial agricultural technologies.**
- **Technologies and farming systems are evaluated to assess potential to improve on-farm environmental performance.**

Program Outcomes

- **Research and results leading to better agri-environmental practices and allowing for agri-environmental programs to be adjusted over time.**

Sharing Knowledge Internationally: The Department's expertise in the area of environmentally sustainable agriculture will be shared with less developed countries. Knowledge and technologies are used to build scientific, technical, and educational capacity in order to reduce poverty and contribute to food security.

National Land and Water Information Service This service will provide on-line information on soils, landscape, hydrology, and land use, along with other data useful for managing land and water resources. Information will

National Land and Water Information Service—Implementation Phases

Phase 1 (2003–2004)

- System design: Inventory of existing databases, program design, and identification of partners.

Phase 2 (2005–2008)

- Construction of information systems, linking of databases, and development of tools and applications that use information.

Program Outcomes

- Service for managing, interpreting, and distributing data to those directly managing land (better decision-making).
- Integrated program that builds on existing infrastructure.

be agriculturally focussed, with an emphasis on the environment. It will be useful for supporting land use and management decisions by producers, agricultural industry groups, municipalities, and government. For example, a land-use planner could access the service over the Internet and use it as a tool to complete a land-use zoning assessment. The National Land and Water Information Service is part of a long-term Government of Canada strategy to help address issues related to land use and water quality.

National Agri-Health Analysis and Reporting Program

Information is a common need of all decision makers concerned with sustainability. Decision makers at all levels need information on the performance of a given system, why that system is behaving as it is, whether that performance is satisfactory, and how it is likely to behave in the future in response, for example, to changes in policies or programs. We are strengthening our capacity for the development, continuous improvement, and use of information related to the interaction between agriculture and the environment, as well as developing tools that track the overall environmental performance of the sector.

The National Agri-Health Analysis and Reporting Program builds on existing science-based agri- environmental indicators, and will expand these indicators and integrate them with economic information. Together these indicators can play a critical role in guiding policies and program design and helping determine which options will be most effective. As policies and programs are implemented, this information will help decision makers analyse and understand the results achieved and take corrective action if necessary. The information generated will also be used to create a general report card available to citizens, and to track the environmental performance of Canadian agriculture.

The program will build on the current efforts of various experts (scientists, economists, policy makers) from Agriculture and Agri-Food Canada and our partners to develop

- a comprehensive set of agri-environmental indicators—science-based, objective measures of environmental conditions, risks, and changes resulting from agricultural management practices—and to assess progress in adopting environmentally sound practices

Agri-Environmental Indicators—Implementation Phases

Phase 1 (2003-2005)

- Update and further development of existing agri-environmental indicators, and reporting to Canadians.

Phase 2 (2003-2008)

- Development of new agri-environmental indicators to address gaps, and reporting to Canadians.

Program Outcomes

- Ability to track changes in the environmental performance of agriculture, as well as to identify and prioritize areas/resources that face greatest environmental risks.
- Ability to report on program performance and adjust as necessary.
- Linking of the National Agri-Health and Reporting Program to other indicator programs: Environment Canada, Canadian Information System on the Environment (CISE), National Round Table on the Environment and the Economy (NRTEE), Organisation for Economic Co-operation and Development (OECD).

- tools to conduct environmental analyses of policies and programs in agriculture by linking agri-environmental indicators with economic information to project future environmental outcomes and assess current and planned programs and policies, so that resources are allocated in the most efficient manner
- approaches to express environmental impacts (typically stated in biophysical terms) in economic terms, in effect assigning a monetary value to the costs and benefits of agri-environmental impacts.

On-Farm Results

On-Farm Results will provide farmers with the support needed to accelerate their efforts to address environmental challenges, and to increase our understanding of agriculture-environment interactions. On- Farm Results consists of the following four initiatives: Environmental Farm Planning Program, National Farm Stewardship Program, Greencover Canada Program, and National Water Supply Expansion Program.

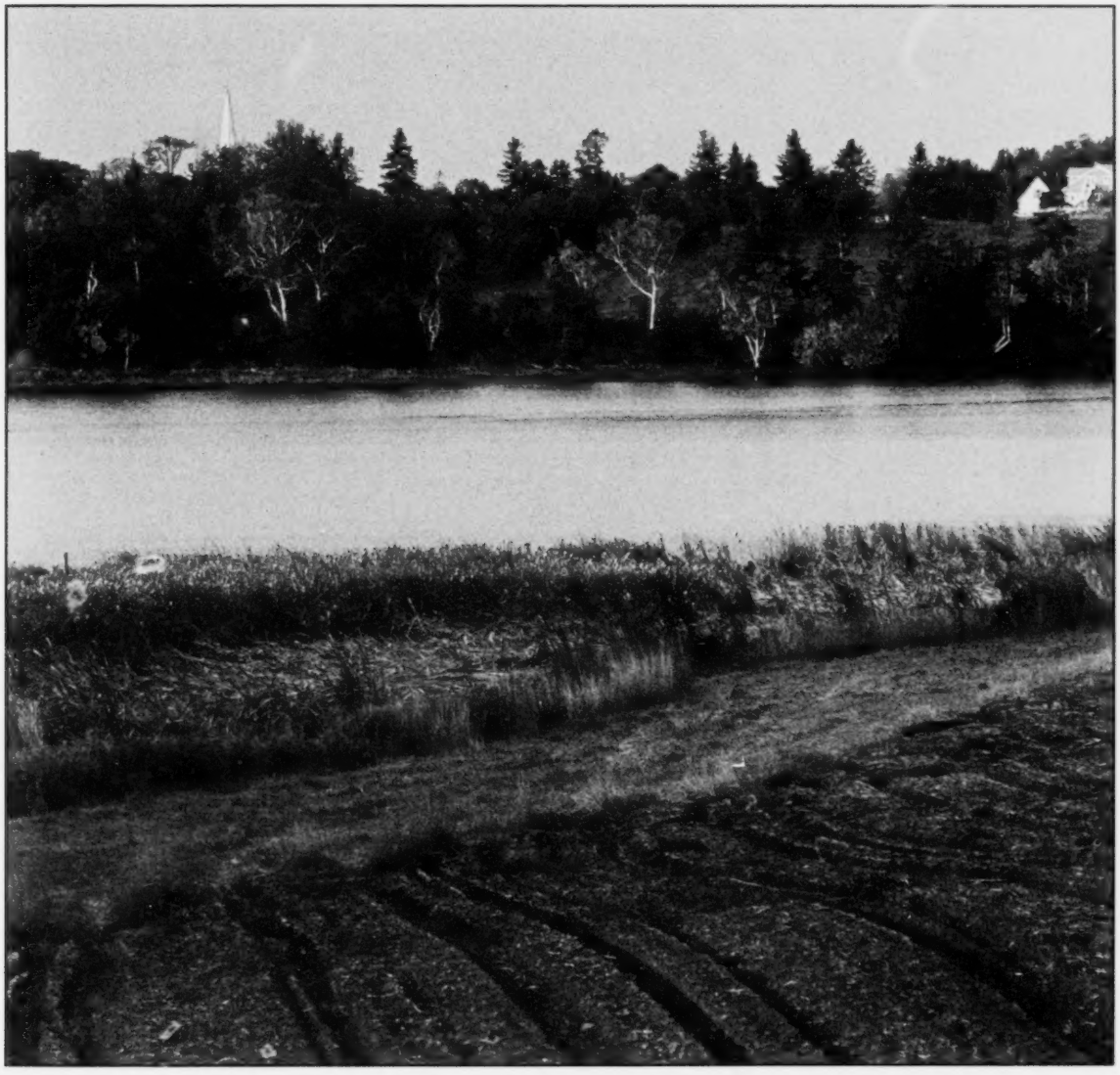
Environmental Farm Planning Program

This initiative wili expand and accelerate farmers' participation in environmental farm plans across Canada. An environmental farm plan (EFP) is a voluntary and confidential process used by individual farmers to identify environmental risks and benefits from their own farming operations, and to develop an action plan to mitigate the risks. Farmers in some regions have experience in environmental farm planning, while others are being introduced to the concept of EFPs. The EFP process allows farmers to set priorities for actions that address on-farm environmental concerns, as well as those that serve the public interest. Benefits include a healthier environment for farm families and the public. Various existing and new provincial EFP programs adhere to national standards and objectives. This will ensure a consistent approach across Canada in achieving measurable and meaningful environmental goals in the areas of water, air, soil, and biodiversity.

National Farm Stewardship Program

The objective of this program is to accelerate adoption of beneficial management practices on Canadian farms and agricultural landscapes. This outcome will be achieved through the provision of cost-shared incentives to producers for implementing beneficial management practices (BMPs) that address on-farm environmental risks. A BMP is an agricultural management practice that mitigates or minimizes the negative impacts and potential risks to the environment posed by agriculture.

Making changes in farming practice and implementing BMPs that protect the environment cost money. Because everyone benefits from environmental protection, it is not reasonable to expect farmers to pay for all the costs. The National Farm Stewardship Program will cover a share of the costs of implementing these improvements in order to encourage or provide incentive to producers to implement some or all of the practices identified in the action plan developed in the environmental farm planning exercise.



Environmental Farm Plans—Implementation Phases

Phase 1 (2003) – Environmental Scans

- Use of information such as watershed plans, survey data, and geographic information systems (GIS) data to identify high-risk areas in each province/region.

Phase 2 (2003–2008) – Environmental Farm Plans (EFPs)

- Use of EFPs to identify environmental risks on farms and determine necessary action.
- Use of EFPs to help meet other federal priorities (*Canadian Environmental Protection Act, Fisheries Act,* Species at Risk Act).

Phase 3 (2003–2008) – Incentives

- Development of criteria for incentive payments.
- Provision of cost-shared incentives to producers with EFPs to assist with cost of adopting beneficial management practices or infrastructure improvements. Incentives will be provided to producers with EFPs only.

Program Outcomes

- EFPs identify risks, prioritize action, and provide a single window for environment programming.
- Canada builds its reputation as a leader in environmentally responsible food production.
- At least 75 percent of farms where agricultural activity poses significant risk are working towards implementing environmental farm plans by 2008.
- Producers and consumers benefit.

Greencover Canada Program

This five-year initiative is designed to promote sustainable land use and to expand the land covered by forage and trees. Greencover will offer landowners a package of options through four program components:

- Land conversion – providing farmers with financial incentives to convert environmentally sensitive cultivated land to alternative uses.
- Technical assistance – providing farmers with information about beneficial management practices and helping accelerate the adoption of these practices.
- Critical areas – supporting actions to improve the health and function of areas situated along streams and other bodies of water, both to protect habitat and retain water quality.
- Shelterbelts – providing landowners with assistance to encourage tree planting on agricultural land.

Greencover will provide Canadians with environmental benefits such as reduced contribution to atmospheric greenhouse gas levels (by capturing carbon in the soil); reduced soil erosion; enhanced wildlife habitat; improved biodiversity, riparian zones, and water quality; and reduced energy consumption.

National Water Supply Expansion Program

This program will provide federal assistance to the agricultural industry to help plan, develop, and conserve water sources. It also will encourage producers and agricultural groups to use sustainable practices in

Greencover Canada Program—Implementation Phases

Phase 1 (2003)

- Use of environmental scans and Environmental Sensitivity Index to identify environmentally sensitive farmland.

Phase 2 (2003–2008)

- Conversion of environmentally sensitive land to perennial cover, enhancement of riparian areas/critical wildlife habitat, and planting of shelterbelts.

Program Outcomes

- Improved management of forage, rangeland, and critical habitat areas to meet federal objectives relating to issues such as climate change and the *Species at Risk Act*.
- Complement to the Community Pasture Program.

National Water Supply Expansion Program—Implementation Phases

Phase 1 (2003)

- Review of program objectives.

Phase 2 (2003-2008)

- Provision of financial assistance to develop secure solutions for high priority water-supply issues.

Program Outcomes

- Transformed economic potential of rural areas for long term growth.
- Reduced risk of future water shortages.

drought-affected agricultural areas of Canada. Through the program, AAFC will provide financial assistance to address national water-supply issues considered a priority for the agriculture industry. Projects assisted include on-farm water infrastructure development, such as surface storage projects, pasture pipelines, and wells, and multi-user water infrastructure, such as regional water pipelines and tank-loading facilities.

The program will also

- support strategic work to help identify solutions for areas currently experiencing or anticipating water supply problems
- contribute to finding long-term water supply solutions, which will be particularly beneficial during years of low precipitation.

Economic Pillar:

A Strong and Prosperous Agriculture Sector

All five elements of the Agricultural Policy Framework contribute to the economic sustainability of the agriculture sector in the sense that they enhance Canada's reputation as the world leader in supplying safe, high quality, environmentally responsible agri-food products, and expand the ability of producers to take advantage of that reputation. Specific components of the APF that address economic sustainability are food quality initiatives under food safety and quality, renewal programming aimed at greater profitability, a variety of science and innovation activities, business risk management programs, and efforts under the international element to develop the Canada brand and enhance producer access to external markets.

Food Safety and Quality

Food safety has always been important to consumers, but recent high-profile events around the world, including outbreaks of BSE in Europe and Canada, as well as concerns about bio-terrorism, have raised consumer awareness and expectations. In areas other than safety, consumers are increasingly knowledgeable and discerning in their food purchases and are demanding greater choice. To maintain their markets, suppliers of food and agricultural products are developing and implementing systems that demonstrate to both existing and potential consumers that they can deliver products within the demanded safety and quality specifications. Suppliers are taking advantage of these changing consumer dynamics to gain new markets and develop niche markets with potential price premiums.

Through the activities and mandate of the Canadian Food Inspection Agency, research and other activities, and programs funded through the Canadian Adaptation and Rural Development (CARD) fund, Agriculture and Agri-Food Canada has been actively involved in food-safety activities, contributing to Canada's solid reputation in this area. To respond to the growing pressures described above, AAFC, along with our provincial and territorial counterparts, has committed under the Agricultural Policy Framework to four common food safety and quality outcome goals:

- protecting human health by reducing exposure to hazards
- increasing consumer confidence in the safety and quality of food produced in Canada
- increasing industry's ability to meet or to exceed market requirements for food safety and food quality
- providing value-added opportunities through the adoption of food-safety and food-quality systems.

The first goal is more directly related to the social dimension of sustainable development, while the latter three goals are more directly linked to the economic pillar of sustainable development.

Four programming subcomponents are proposed under the food safety and food quality element of the APF. Two of these subcomponents build on the success of existing food-safety initiatives that have been funded under the CARD Fund, namely the Canadian On-Farm Food Safety (COFFS) program and the Canadian Food Safety Adaptation Program (CFSAP). The other two subcomponents support activities in the area of food quality and traceability, which were not explicitly covered by COFFS and CFSAP. Taken as a whole, these four programming subcomponents support activities in the key areas necessary to strengthen Canada's food safety and food quality systems.

Because they respond directly to social sustainability through improved health, food safety and traceability initiatives are discussed in the chapter on social sustainability. Like all APF programming, however, these initiatives will also contribute to the economic sustainability of the sector by increasing consumer confidence in Canadian products at home and abroad. In the same way, food-quality initiatives, discussed here because of their direct link to increased profitability, also improve the social sustainability of the sector by contributing to a higher quality of life for Canadians.

The food quality component of the APF involves establishing a national governance structure to support and oversee the management and harmonization of product quality standards for commodities and consumer-packaged products that are globally recognized. Commodity, industry, and retail groups have expressed an interest in having government recognition for their product-quality standards. Through this component, any group seeking such recognition can have their product standards assessed against government-established criteria to determine the type of recognition that is appropriate. Government recognition for product quality is expected to contribute to the product's marketability, both domestically and internationally, and thus contribute to industry growth.

Key activities of the certification/recognition include

- developing a certification strategy for the Department and portfolio
- facilitating industry readiness for, and involvement in, recognition and certification activities
- developing a national coordinating capacity for agri-food certification, including government oversight.

Through the development of standards and recognition programs for food quality based on voluntary industry participation, AAFC will directly support the sustainable economic development of the sector, at the same time contributing to a higher quality of life for consumers.

Renewal

Today's farmers face a number of changes and the challenges that go with them. To assist them in achieving their individual goals, they will have access to public and private sector programs and services that will help them

- acquire the requisite skills, knowledge, tools, and risk management opportunities to be successful farm operators
- upgrade management and technical skills
- develop the requisite skills to pursue alternative income opportunities, when this is their choice
- move out of farming, when this is their choice, by giving them the needed skills and options
- assess the performance and potential profitability of their farm business, enhance their ability to make business management decisions, and explore and develop market opportunities.

Canadian Farm Business Advisory Services

These services will replace the current Farm Consultation Service, providing single-window access to all Renewal programs and three sets of business planning services. After a program entry interview, producers will have access to the Farm Business Assessment and Action Plan service, offering up to five days of consultant services to help the producer develop a business plan. More specialized business consulting will be available through Business Planning Services, and farmers interested in developing value-added businesses can use the Planning and Assessment for Value-Added Enterprises program services.

Awareness

Awareness activities have the two goals of providing information to help farmers make decisions about their business operations, and establishing and building awareness in the sector of renewal initiatives. Currently available Web sites provide farmers with benchmarks against which to compare their performance and provide access to mentoring and peer-support networks, as well information about renewal programs.

Capturing Opportunities from Science and Innovation

This initiative will improve the profitability of the sector by assisting farmers to capture opportunities arising from advances in science and innovation. Activities include strengthening networks to increase the effectiveness of knowledge transfer, reviewing the process by which market information flows to farmers, and examining the regulatory environment and determining whether new initiatives are required to open up opportunities. Activities will be integrated with initiatives under the APF's Science and Innovation element.

Skills and Learning

These activities will aim at enhancing industry skills and learning infrastructures through organizations such as the Canadian Farm Business Management Council (CFBMC), Association of Canadian Community Colleges, and Human Resources Development Canada Sector Council process. The program will create strategies to enhance the effectiveness of training institutions (colleges, institutes), study the feasibility of a sector council, and refocus the CFBMC's Web site, publications, and workshops on APF priorities.

Skills Development and Learning Assistance Program

The goal of this program is to ensure access to training that will help farmers make choices about their future and enable them to pursue income opportunities on and off the farm. The program will offer assistance for skills development and access to training that could result in higher on- or off-farm income. Assistance will be provided to access training in areas such as business management, accounting, finance, human resource management, training for other employment, or training to acquire skills related to starting a new business. Financial support, such as tuition fees for courses, living allowances, travel, and accommodation will be provided for eligible clients who are pursuing new skills to capture new opportunities.

Access to Capital

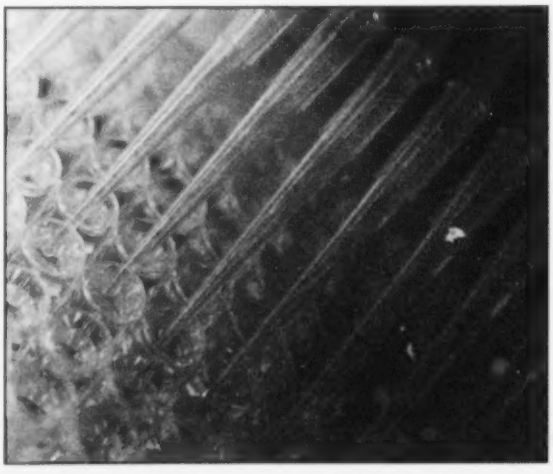
This programming aims at increasing private sector investment and improving a farmer's chances of obtaining debt and/or equity financing for proposed farm and other agri-business projects. Activities will include a focus on sources of financing in the Canadian Farm Business Advisory Service program, a review of the *Farm Improvement and Marketing Co-operatives Loan Act* program to consider the possibility of providing loan guarantees to beginning farmers, and the possibility of using Farm Credit Canada to offer equity capital directly and in partnership with other equity providers.

Science and Innovation

To become the world leader, the agriculture and agri-food sector must be at the forefront of science and innovation, not only in developing new products and technologies, but also in improving environmental stewardship and food safety and quality. Traditionally science and innovation in agriculture have focused on assisting producers to increase productivity and profit through, for example, higher-yielding varieties and more efficient production systems. Under the APF, science and innovation activities are expanded and realigned in order to support the APF priority areas— the environment, food safety and quality, renewal, and business risk management – as well as the emerging areas of biomass, bioproducts, and bioprocesses.

Programming under the Science and Innovation element of the APF is organized into three categories:

- Realigning Public Science Resources
- Coordinating along the Whole Value Chain
- Creating an Innovation Climate.



Agriculture and Agri-Food Canada's science resources will become aligned with other APF elements, and non-AAFC science organizations will also be encouraged to support these priorities. A strategy will be developed to create stronger links and improve coordination between organizations and individuals within the agricultural value chain (members of industry, from producers to processors to marketers; academic and private industry research institutions; and governments). By encouraging the growth of research institutions, the development of infrastructure, and access to research capital for industry, AAFC and our partners will improve the climate for innovation in Canada.

Science and innovation activities under the APF will work towards the economic sustainability of Canada's agricultural sector in two ways: by supporting other APF activities, such as environmental and food safety and quality initiatives, that contribute to economic development; and by helping to create new business opportunities and improve productivity.

Business Risk Management

The Department has long supported risk management within the agriculture sector through vehicles such as crop insurance programs; the Net Income Stabilization Account and Canadian Farm Income Program; and cash advance programs, such as the Advance Payments Program and Spring Credit Advance Program.

Under the APF, a more comprehensive, integrated system of business risk management is being put into place to realize the potential improvements identified in the 2000 and 2001 reviews of AAFC risk management programs.

Business risk management programming under the APF consists of four interconnected elements: the Canadian Agricultural Income Stabilization Program, Production Insurance, Cash Advance programs, and Private Sector Risk Management Partnerships. Together these four programs will contribute substantially to the sustainable economic development of the sector. They will allow farmers to deal with both the high levels of risk typically faced by the sector and the increasing pressures resulting from rapid change by

- stabilizing income
- providing consistent, predictable disaster coverage
- helping farmers distribute their income over the business year
- encouraging the development of private-sector risk management tools.

Canadian Agricultural Income Stabilization Program

This program replaces the Net Income Stabilization Account and Canadian Farm Income Program, a transition that will take place over the next three years. The new program will provide producers with streamlined, single-window access to income stabilization and disaster protection.

By paying into the program, producers will receive income stabilization payments if they experience margin declines compared to an average of their margin in previous years. To secure protection, a producer will make a fully refundable deposit. The refundable deposit is not a premium; the producer uses it to help replace lost income. If there is no margin decline, the deposit will be rolled over to secure protection the next year. Producers will be able to choose among various levels of protection, although participation in the program will require a minimum deposit for basic benefits.

The deeper a producer's loss, the greater will be the government share of the cost to cover those losses. Extensive support for producers

experiencing declines makes the Canadian Agricultural Income Stabilization Program a disaster-response program, as well as an income stabilization program.

Production Insurance

Production insurance will expand on existing crop insurance programs. Currently, crop insurance is a set of risk-management elements available in each of the 10 provinces and administered by provincial agencies. Producers purchase coverage to guarantee a certain percentage of probable yield for a specific crop grown. The cost of premiums for such coverage is shared by producers and the federal and provincial governments.

Under the APF, existing crop insurance, based on specific crops, will be complemented by coverage of other commodities not currently covered, as well as new types of pricing options, such as insuring contract prices, weather derivatives, and a "whole farm" option to crop-based insurance. Equity and consistency between provinces and farming sectors will be improved, and the program will be coordinated with the Canadian Agricultural Income Stabilization Program to avoid duplication. Production insurance will come on stream in 2006.

Cash Advance Programs

The two existing cash advance programs, Advance Payments Program and Spring Credit Advance Program, continue unchanged under the APF. These programs guarantee the repayment of advances made by producer organizations to producers in the spring and at harvest, giving farmers more stability for long- term business planning.

Private Sector Risk Management Partnerships

This component of business risk management will provide financial and technical assistance to projects led by commodity or other agricultural organizations for the development of private sector agricultural risk management tools. These tools will address farm business risks,

such as business interruption, asset loss, and income loss, which are not covered by existing government risk management programs or private sector services. Unknown risks and risks with the potential to develop into disaster scenarios will not be funded.

International

The international team in the Department has been engaged with industry and provincial and territorial partners to develop an effective international strategy that builds on the national APF vision. The strategic objectives of the international component are twofold: to achieve greater recognition, at home and abroad, of the Canadian industry's world-leading capacity to meet the demands for quality in a rapidly changing and highly segmented global market, and to expand the Canadian industry's access to foreign markets to maximize the benefits realized from Canada's reputation.

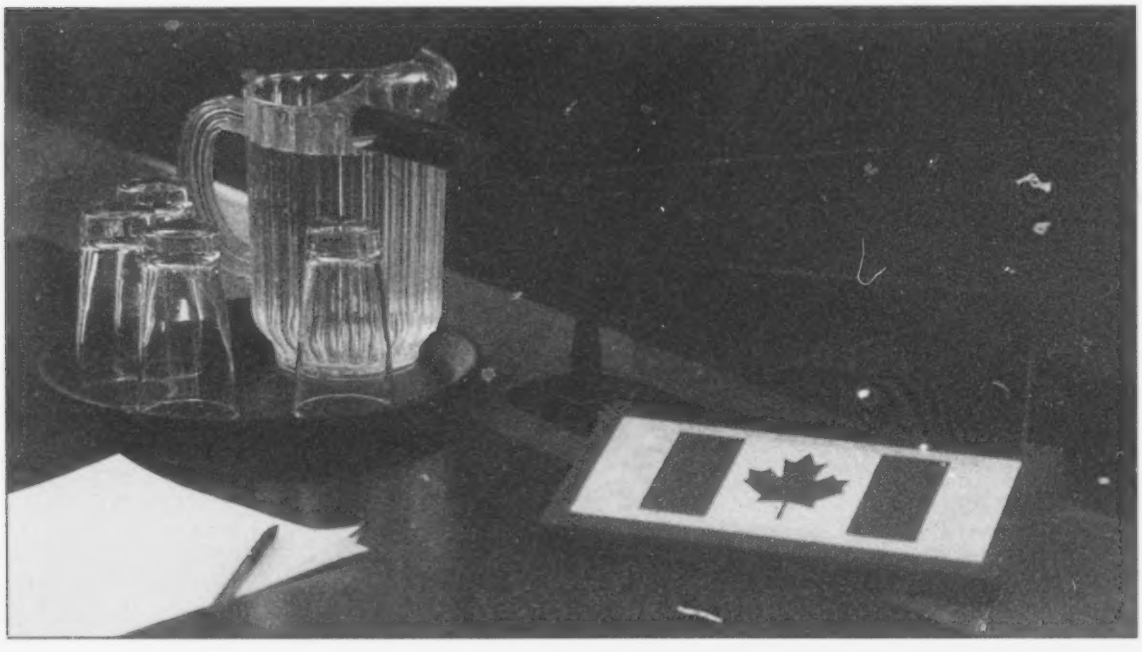
These objectives are attainable by expanding market opportunities through an integrated set of long-term objectives that include:

- successfully fostering collaborative action from the entire value-chain
- gaining recognition of Canadian agriculture and food products in the international market place
- increasing foreign market services to Canadian industry
- overcoming existing market barriers to trade
- receiving increased support for Canada's agricultural foreign policy agenda.

These efforts will build on APF activities at the domestic level.

As an initial response to program and industry needs, the Department has determined that a number of priority activities should begin in the short term. These activities fall within the broad areas of gaining recognition and building markets, improving market access, overcoming technical barriers, and enhancing international development.

These international activities, mainly focused on economic development, are complemented



by AAFC's participation in negotiations regarding international agreements on environmental issues and food safety, such as the International Treaty on Plant Genetic Resources for Food and Agriculture and the World Summit on Sustainable Development Plan of Implementation. We also play an important role in fulfilling Canada's commitments under a number of international treaties, which are pursued under domestic APF initiatives.

Gaining Recognition and Building Markets
This initiative focuses on

- market research
- communications strategies aimed at developing the Canada brand
- technical marketing assistance to industry sectors
- development of tailored, emerging market strategies.

These activities will be delivered in part by an expanded team of specialists posted abroad throughout the Agri-food Specialist Abroad program.

Improving Market Access
Activities under this initiative aim to ensure that Canadian producers and processors can translate international recognition of the quality of Canadian agriculture and agri-food products into increased export sales by establishing clear rules governing the international trade of agricultural products and maximum access to foreign markets. The Department will take a more strategic, multifaceted approach to influencing the outcome of trade negotiations. This approach focuses on the establishment of key strategic alliances and improvement of Canada's ability to respond to the increasingly legal nature of negotiations. Agriculture and Agri-Food Canada will also

- engage in systematic advocacy activities to press for increased trade liberalization
- increase dialogue with agri-food stakeholders and the provinces
- support conferences and workshops to study issues related to negotiations.

Overcoming Technical Barriers to Trade
Technical trade issues have the potential to cause serious disruptions in trade. Through efforts to overcome these barriers, we will work to positively influence the development of international technical standards and policies and, where necessary, challenge measures put into place by other countries.

The Department will also

- enhance our traditional regulatory focus with a stronger strategic policy approach to technical trade-related issues
- advance key food safety and quality and environmental elements of the APF in international fora
- focus on forming alliances with other countries on multilateral approaches to key issues that are aligned with APF accomplishments
- develop an early warning system on emerging technical trade issues; resulting information can be disseminated to domestic stakeholders and used to prepare Canadian positions and adjust national standards as appropriate.

Canada has made a commitment to be a leader in international development, including agricultural development. Along with the moral and humanitarian reasons for this commitment, it is becoming increasingly important that Canada work closely with developing countries in view of their growing importance as emerging markets and as influential players in multilateral organizations.

Enhancing International Development

Agriculture and Agri-Food Canada will promote synergies between international development activities funded by CIDA and other development agencies (particularly those in which AAFC is involved) and the goals of the APF. This cooperation will

- help developing countries benefit from added trade
- assist Canada in creating alliances on international development issues
- allow Canada to forge relationships to support goals related to market development and trade policy.

Our main international activities are capacity building through training initiatives, and knowledge exchange through reciprocal assignments and secondments of professional and technical personnel. These activities will support Canada's other efforts to assist developing countries and economies in transition to adjust to WTO rules and deliver on Canada's commitments to poverty reduction and sustainable agriculture. The Department will partner with national and international development agencies on international technical assistance projects in key emerging markets that gain recognition for Canadian expertise in food safety and environmentally responsible production. To maximize gains from this strategy, we will work with industry to seize market development opportunities arising from international development work and use trade-related technical assistance to strengthen alliances on trade policy issues.

Social Pillar: Safe, Vibrant Communities Filled With Opportunities

Agriculture and Agri-Food Canada's Agricultural Policy Framework not only encompasses environmental and economic considerations, but also focuses on issues of social importance. These issues include helping producers and their families acquire the education and skills they need to succeed and make critical life transitions, and helping agricultural communities remain viable and continue to make a unique cultural contribution to Canada. As a department integrally linked to our country's food supply, we have worked hard to ensure that food safety remains a critical element of our strategy, strengthening this component to ensure the health of Canadians. We are also stretching beyond our borders to share our agricultural expertise with developing countries. This new vision for agriculture addresses the social dimension of sustainable development in four primary areas: food safety and quality, renewal, international development, and rural communities.

Food Safety and Quality

The social dimension of sustainable development is more aptly identified with food safety than with food quality. The Department's emphasis on food safety supports the wellness of consumers and minimizes the risk and impact of food-borne hazards on human health. Two main factors encourage our enhanced approach to food safety. First, consumers are becoming more and more demanding about both the safety and quality of food that they eat. Second, new threats are emerging to food safety, both accidental and deliberate.

Hazard Analysis Critical Control Point Systems
A critical part of AAFC's plan for food safety is the implementation of Hazard Analysis Critical Control Point systems by industry. This internationally recognized system follows a set of principles used to identify, evaluate, and control food-safety hazards. Building on what industry has already accomplished, AAFC will offer funding and technical assistance to help producers develop and implement on-farm food safety systems. These systems are being implemented beyond the farm gate as well, in the processing and distribution sectors. We are working with national associations and groups involved directly or indirectly in the production, marketing, distribution, and preparation of food to develop risk management strategies, tools, and systems to enhance food safety throughout the entire food chain.

Traceability Systems
Another critical part of our plan for food safety and quality is the implementation of traceability systems by industry. Outbreaks of diseases or pathogens within the food production and processing chain were once contained within small areas. Today's intensive farming and greater movement of goods and people have made them much more difficult to contain. As a result, outbreaks, caused naturally or by bio-terrorism, can spread throughout a country and around the world in a remarkably short time. Further complicating matters is the fact that as a product moves through the production and processing chain and beyond, its source becomes less and less defined. In an outbreak situation, a large quantity of the affected commodity must be removed from the market to offset the risk that some of the affected product could be missed. Traceability systems enhance both food safety and food quality. Food safety is enhanced through the rapid identification and isolation of food safety hazards anywhere along the food-production chain.

Health Canada Partnership
We will collaborate with Health Canada in

- developing on-farm activities related to food safety standards
- performing research in support of setting standards
- developing a national integrated pathogen surveillance program to link human exposure to pathogens from animal and other food sources to the occurrence of human enteric illness in the population
- developing an integrated antimicrobial resistance program that can measure the impact of using antimicrobials in the agri-food and aquaculture sector, and of other management factors on the emergence of antimicrobial resistance in human pathogens.

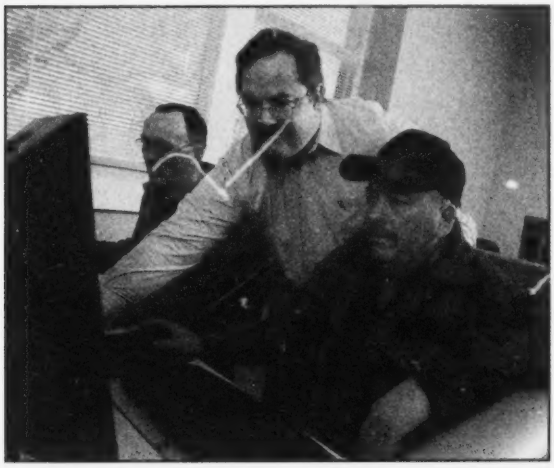
The safety of our food supply has clear social implications, directly affecting the health of Canadians. Social and economic considerations are interconnected in this area. If we cannot guarantee the safety of our food, then we will quickly lose access to critical markets. By the same token, greater assurances of food safety may enable Canadians to access larger markets.

Renewal
Traditionally many of the skills needed to operate a farm were passed from generation to generation in a process of informal apprenticeship. This approach to learning, reasonably successful in the past, is no longer adequate in times of rapid change. Successful farming now requires an expanded knowledge base and mastery of innovative technologies, products, and practices. As farming operations become larger and more complex, producers are

devoting more effort to managing financial and human resources. Both new farmers and those already established in the business are increasingly aware of the need to make a lifetime commitment to acquiring new skills and knowledge so they can stay competitive.

With additional skills, adoption of new technologies, expansion of their operations, or changes to their product mix, most of those now operating farm businesses will continue to be successful as they move through the new century. Some low-income farm families may seek off-farm economic opportunities as a means to supplement farm income. At present, few programs are in place to help individuals prepare for and pursue alternatives off the farm, either full-time or part-time.

The renewal component of the APF is designed to help producers contribute to, and benefit from, the knowledge-based economy and society. Built on the concept of continuous learning, this component will help producers assess their situation and identify the type of learning, training, and skills they need for success during times of critical transition. The program will enhance their access to training and enable them to pursue income opportunities on and off the farm, enabling the family to remain on the farm. The proposed federal role is to make available to all producers a core set of national renewal programs and services.



International Development

Developing countries face many barriers to enhanced development. For example, many developing countries cannot meet the escalating food-safety and environmental requirements of developed countries, inhibiting their ability to participate in fruitful trading relationships.

The Department's international development agenda is being enhanced through the APF. In collaboration with the Canadian International Development Agency and the Department of Foreign Affairs and International Trade, we will work to assess the needs of developing countries and to develop project proposals for international development initiatives related to agriculture and trade. Ministers have agreed to three priorities for action in the area of international development, with both social and economic considerations in mind:

- showing leadership in international fora in support of developing countries
- providing capacity building assistance to key developing countries
- building alliances to advance the development agenda.

Our involvement in international development is extensive. It includes project execution, as well as involvement in issues of importance to developing countries, including

- building trade capacity in Egypt
- managing business risk in Chile
- promoting sustainable agriculture in the Inner Mongolia Autonomous Region of China

- formulating the International Treaty on Plant Genetic Resources for Food and Agriculture
- supporting the Canada–China Dairy Project.

Rural Communities

Canada was founded on the strength and vitality of its rural communities, and today continues to depend on these resources. Sustainable rural development hinges on recognizing the value of rural and remote communities to the future of Canada, acknowledging the differences in these communities, and channeling a fair share of the country's resources to meet the needs of rural people. As for all sustainable development, sustainable rural development depends on proper attention being given to people (the social element), their enterprises (the economic element), and how they interact with the earth (the environmental element). Sustainable agriculture continues to be an important consideration in rural development, as it is the foundation of a safe and dependable food supply in Canada and contributes significantly to the Canadian economy.

In its March 1997 report *Think Rural!*, the House of Commons Standing Committee on Natural Resources urged the Government of Canada to develop a comprehensive and regionally

focused rural policy for Canada. In the Speech from the Throne, September 1997, the Government of Canada made such a commitment, which has taken form in the Canadian Rural Partnership. This partnership provides a focus for 29 federal departments and agencies to create the social, economic, and cultural climate within which rural Canada can thrive. As part of this initiative, begun in 1998, rural Canadians were invited to make their views known through the Rural Dialogue, which continues today. As a result of this initial interaction, the federal government created the Federal Framework for Action in Rural Canada, which identifies 11 priority areas for government action. New policies and programs of the federal government are now scrutinized through a "rural lens" to assess their effects on rural Canada. A four-year pilot project initiative was launched in 1998 to support rural Canadians as they engage in creative activities to promote sustainable community development. Under the Agricultural Policy Framework, the commitment to the Canadian Rural Partnership is enhanced through $55 million in funding over the next five years. An additional $5 million will be directed towards rural community capacity-building.

In winter 2003, federal, provincial, and territorial ministers responsible for rural development agreed to explore a collaborative approach to further advance the vitality of rural, remote, and northern communities. They expressed their intention to continue working closely together to share information and collaborate where appropriate. Based on the discussions, they will pursue a more coordinated approach to rural policy, focusing on the cultural, social, environmental, and economic conditions necessary for vibrant rural communities. Future discussions will be directed toward the long-term sustainability and viability of communities.

Ministers agreed to continue to build upon collaborative principles for a national framework for rural policies. They are also committed to starting work immediately to develop a research agenda and to putting into place a plan for action for rural communities focused on supporting community capacity.

Collaboration with the International Institute on Sustainable Development

To support the social aspects of sustainable development activities outlined above, AAFC will be working with the International Institute on Sustainable Development (IISD) to better define the social dimension for agriculture, as well as to develop social indicators for measuring and reporting on progress in this area. With our assistance, the Institute will examine the current literature on social issues and indicators of relevance to the agriculture and agri-food sector and rural development, and outline a plan of action regarding the development of social indicators that will support and link with AAFC's agri-environmental indicators program. Ultimately, the aim is to have a core set of social indicators, similar to those we are currently refining for the environment, and a mechanism for monitoring, analyzing and reporting them to policy makers and the public.

Leading By Example:

A Department that Promotes Sustainable Development

Private sector and public organizations are under growing pressure to operate in an environmentally sound way. Increasingly stringent environmental legislation and the development of policies and other measures to protect the environment contribute to this pressure. Public expectations have also influenced this change. As a result, organizations of all kinds are becoming more concerned about how to control the impact of their activities on the environment.

As the single largest organization in Canada, the federal government can set an excellent example for Canada through its own practices. The federal government contributes to the legal framework in which Canadians use the environment and touches a large number of people through its programs and services. It is also the country's largest employer, purchaser, and landlord. In short, the government exerts enormous influence on the country's goals, values, and actions.

As part of the federal government, Agriculture and Agri-Food Canada shares this role. Part of our responsibility lies in helping the agriculture and agri-food sector adopt sustainable ways of doing business, but we are also responsible for conducting our own affairs sustainably. Agriculture and Agri-Food Canada is an active participant in Sustainable Development in Government Operations (SDGO), an interdepartmental initiative designed to identify and coordinate opportunities to advance the federal commitment to be a leader in sustainable development. AAFC is working together with other SDGO departments and agencies to adopt common measurement and reporting methods. This section looks at how we intend to further integrate sustainable development principles into greening our operations.

Integrating Sustainable Development Principles into Operations

Sustainable development is not a fixed state that can be achieved with a one-time effort, but a dynamic state of continuous improvement. To ensure that we are progressing in our efforts to integrate sustainable development into departmental decision-making processes relating to its operations, we have identified three areas for attention:

- improving the tools available for the analysis of our environmental performance
- defining a required process or processes for conducting the analysis
- improving the outputs of the analysis to further improve our environmental performance.

Agriculture and Agri-Food Canada owns about 1,100 vehicles, 2,400 buildings, and 955,000 hectares of land; occupies upwards of 82,500 square metres of office space; and operates research centres, experimental farms, community pastures, and water-supply systems. These assets provide ample opportunity to demonstrate green practices in our own operations.

Guided by the document *Sustainable Development and Government Operations: A Coordinated Approach*, we are integrating sustainable development principles into our operations by

- adopting green procurement practices
- improving the management of waste, water, and waste-water
- improving building energy efficiency
- improving vehicle use
- adopting best practices related to land management, such as piloting the development of environmental farm plans for AAFC lands and taking appropriate steps to manage contaminated sites, storage tanks, and halocarbons
- developing emergency preparedness and response programs.

AAFC will strive to *Lead by example to reduce its ecological footprint*.

To achieve this goal, AAFC has set the following two long term and ongoing objectives:

- Reduce AAFC reliance on natural resources, and
- Minimize the impact of AAFC's operations on the environment

Environmental Management System

An ongoing commitment made in our first sustainable development strategy was to begin developing a more systematic approach to environmental management through the implementation of an environmental management system (EMS) based on the ISO 14001 standard. The initial approach included

- development of a departmental EMS
- management of contaminated sites, fuel-storage tanks, and hazardous waste and products
- identification of ways to reduce our emissions.

We continue to develop and fine-tune environmental management programs in priority areas, as well as the Environmental Information and Performance Management System (EIPMS). The EIPMS will enable us as a department to meet legally enacted reporting and accounting requirements. These requirements relate to various environmental performance measures and indicators and to progress towards improving overall environmental performance, including progress toward SDS targets.

The system will run on our corporate Web servers, providing an electronic interface to link existing information management systems at AAFC. The purpose of the Web-based system is to

- create a database and a tracking and reporting system of assets and environmentally related information
- track progress
- maintain accurate series of inventories in key areas of environmental performance.

Environmental Management System—Departmental Targets

March 2004 - Specific for the management of its assets, to have an approved Departmental Environmental Management Policy and Strategic Action Plan for the implementation of AAFC's EMS.

- Performance Measure: Approved Environmental Management Policy and Strategic Action Plan.

March 2005 - Specific for the management of its assets, AAFC to have a fully populated Environmental Information and Performance Management System (EIPMS) database for monitoring and reporting on our environmental performance.

- Performance Measure: A populated EIPMS database.

March 2005 - To have an EMS that meets the requirements of the ISO 14001 standard.

- Performance measures: Documented Environmental Management System;
  Annual Environmental Management Performance report;
  Annual Management Review report.

Emergency Preparedness and Response

To further reduce any potential liability, AAFC needs to systematically review and examine how each of its facilities identifies and determines accident or emergency situations that might arise and assist its facilities with the development of procedures, plans or programs to prevent and mitigate potential environmental impacts and to respond to emergency situations if they occur.

If an emergency occurs, an organized, competent response will help minimize any damage to human health or the environment. In addition to existing fire emergency response plans, AAFC must establish and test plans for preventing, responding to and correcting other potential types of emergencies resulting from either facility or field related activities.

Land Management

Agriculture and Agri-Food Canada has significant land holdings across Canada. Risks associated with storage tanks, contaminated sites, and hazardous waste disposal must be managed to protect human and environmental health in accordance with applicable legislation and best management practices. Land-use management places a priority on remediation efforts and steadily reduces the number of properties for which further action is required.

We will incorporate within our own land-management process the following best practices, advocated by the federal government:

- identifying, classifying, and assessing sites of concern
- managing risks to human health and the environment using risk assessment and techniques for containment, mitigation, and remediation.

Emergency Preparedness and Response—Departmental Targets

March 2005 - Implement environmental emergency response plans and develop incident, release and spill reporting procedures for all AAFC facilities.

- Performance measures: Percent change in the number of facilities having implemented approved environmental emergency response plans and reporting procedures for release and spills reported annually.

Land Management—Departmental Targets

Contaminated sites

March 31, 2008 - Completion of all applicable phases of environmental site assessment at all AAFC properties with potential for contamination, including determination of the extent of contamination as required.

- Performance measure: Percentage of properties/sites with potential for contamination reviewed for contamination.

March 31, 2008 - Remediation or other treatment of all known Class 1(high risk) and Class 2 (medium risk) contaminated sites, or other known sites warranting risk reduction.

- Performance measure: Percentage of known Class 1 and 2 contaminated sites, or other known sites warranting risk reduction, that have been remediated or otherwise handled since March 31, 2003; Number of known Class 1 and 2 contaminated sites, or other known sites warranting risk reduction, that have yet to be remediated or otherwise addressed.

Storage tanks

March 31 2005 - Have all abandoned tanks assessed, decommissioned and disposed in accordance with the applicable federal legislation.

- Performance measure: Number of abandoned tanks removed and disposed of reported annually; Percent change in number of abandoned tanks requiring to be disposed reported annually.

March 31 2005 - Implement environmental emergency response plans and spill reporting procedures at all AAFC facilities with hydrocarbon containing storage tanks.

- Performance measure: Percent change in the number of facilities having implemented approved environmental emergency response plan and reporting procedures for spills-leaks reported annually.

March 31 2007 - Insure 100 % compliance of all AAFC storage tanks.

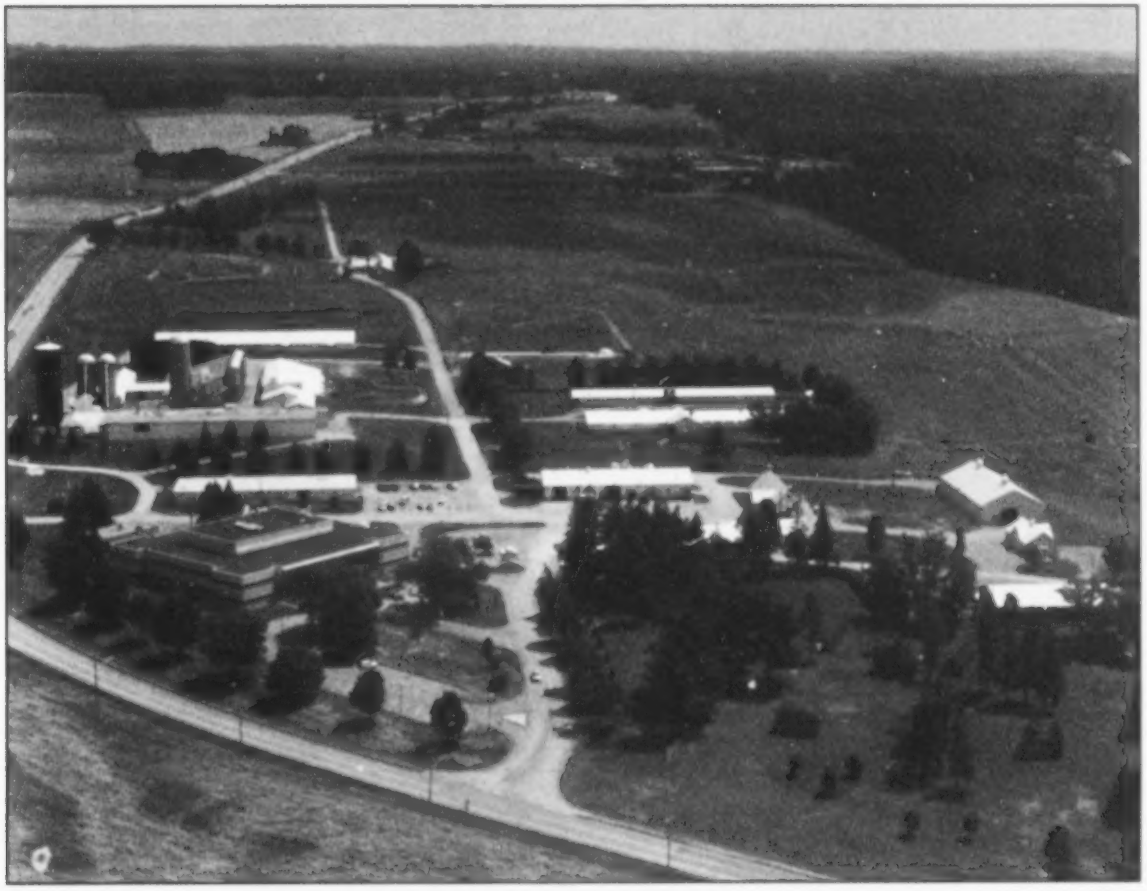
- Performance measure: Percent of storage tanks that are in compliance with the applicable regulations reported annually.

Building Energy Management

Canadians are dependent on energy to power the tasks and functions of daily life. Energy consumption has some detrimental effects on the environment. Efficient energy use can, however, reduce energy consumption and costs, as well as emissions, including those of greenhouse gases.

We will join other federal departments in working to adopt a number of best practices to improve energy efficiency. These include:

- reviewing energy use
- developing energy management plans
- providing the necessary training in energy efficiency for building operators and managers
- implementing all economically attractive energy retrofits.



Building Energy Management—Departmental Targets

Greenhouse Gas Emissions

March 2010 - Reduce AAFC's emission of greenhouse gases resulting from energy consumption in our buildings to 8.5% below what we expect to be emitting in 2010 based on business as usual practices of 1998. By reaching this target, AAFC will avert the generation of 10,055 Tonnes of CO2 equivalent GHG emissions per year.

- Performance Measure(s): Total CO2 equivalent emission level resulting from energy consumption in all AAFC owned buildings, reported annually to FHIO initiative.

Halocarbons

From our 2003 level, to reduce on an annual basis our Ozone Depleting Potential (ODP) and Global Warming Potential (GWP).

- Performance measure: Development and Implementation of a revised Halocarbon Management Strategy; Annually update equipment and refrigerant inventory and report on percent variation changes from previous year of AAFC's ODP and GWP.

Fleet Management

Transportation accounts for a significant portion of Canada's greenhouse gas emissions and other air pollutants, including ground-level ozone, nitrous oxide, volatile organic compounds, and fine particulate matter. With 1100 vehicles in our fleet, we contribute to these air-quality problems. By managing our fleet wisely, we can reduce vehicle emissions to meet legislation and policy objectives, including the Kyoto Protocol commitments; cut by-products and waste from vehicle use; and decrease costs.

We will continue working to adopt a number of best practices for fleet management. These include:

- managing fleet vehicles in accordance with economic and environmental objectives outlined in Treasury Board's Motor Vehicle Policy
- maximizing fuel efficiency and alternative fuel use
- reducing the number of vehicles and kilometres traveled under departmental use
- purchasing vehicles of appropriate engine size for intended use
- testing emissions and maintaining vehicles regularly.

Waste Management

Waste management is the formal term for reducing, reusing, recycling, and recovering. Its objectives are to reduce the negative impacts of landfill sites, resource consumption, and greenhouse gas emissions. Waste management also aims to cut costs, comply with regulations, and meet public expectations.

Water and Wastewater Management

Canada is a country rich with water resources, and Canadians are among the highest users of water in the world. More and more, however, they are realizing the importance of water conservation and are making efforts, both in the home and at the office, to conserve this resource and save costs. The Department will incorporate within its own water-management operations the following best practices advocated by the federal government:

- identifying water-saving opportunities
- developing and implementing water-conservation plans and optimizing water efficiency
- considering water-efficient equipment for future purchases, to reduce water use
- using grey water for landscaping and irrigation when feasible.

Fleet Management—Departmental Targets

2010 - Reduce the emission of greenhouse gases resulting from fuel consumption by AAFC's fleet and off-road equipment to 8.5% below what we expect to be emitting in 2010 based on business as usual practices of 1998.

- **Performance Measure: Total CO2 equivalent emission level resulting from fuel consumption in AAFC owned fleet and off-road equipment, reported annually to FHIO initiative.**

Waste Management—Departmental Targets

March 31, 2006 - AAFC to have conducted waste audits at all its major facilities.

- Performance Measure: Number of waste management audits performed.

March 31, 2007 - Based on the outcomes of the audits, AAFC to have developed and implemented waste-reduction plans for each identified facility.

- Performance Measure: Number of facilities where waste reduction action plans have been initiated updated and progress reported annually;
  Percent reduction of the amount of solid waste being sent to landfill reported annually.

Water and Wastewater Management—Departmental Targets

March 31, 2006 - AAFC to have conducted water and wastewater audits at all its major facilities.

- Performance Measure: Number of water and wastewater audits performed.

March 31, 2007 - Based on the outcomes of these audits, AAFC to have developed and implemented water and wastewater reduction plans for each major facility audited.

- Performance Measure: Number of facilities with water and wastewater reduction plans initiated updated and progress reported annually;
  Percent reduction of water consumed and wastewater generated reported annually.

Procurement

Green procurement is the purchase of environmentally responsible goods and services that reduce resource consumption, waste, greenhouse gas emissions, and risks to the environment and human health.

Procurement—Departmental Targets

2004 - Delivery of green procurement awareness training to the integrated service managers community and all NCR Assets Management/Procurement staff.

- Performance Measure: Number of training sessions and staff attending in each calender year.

2005 - Delivery of green procurement awareness training to all AAFC procurement staff.

- Performance Measure: Number of training sessions and staff attending in each calender year.

Setting Targets and Measuring Performance

To ensure that we are making the progress necessary to achieve our sustainable development and Agricultural Policy Framework objectives, Agriculture and Agri-Food Canada has developed a series of logic models related to the various elements of the APF agreement. Earlier in this document, the link was made between the APF and the three pillars of sustainable development – environmental, economic, and social. In this section, activities, outputs, targets, outcomes, and objectives related to each pillar are detailed by APF component – environment, food safety and quality, renewal, science and innovation, business risk management – as well as international.

The results-based logic models that follow illustrate the detailed strategy underlying the APF components, and the logical sequence of expected results the components must follow in order to achieve intended outcomes. These detailed logic models and the performance indicators defined within them are part of the Department's performance measurement strategy for the APF. The logic models are best understood if read from bottom to top, showing how specific activities, deliverables, and targets will achieve the desired outcomes, all in support of the overall strategic objective, which heads each table. Please keep in mind that the development of logic models is an iterative process.

Along with reporting on the individual elements, a Health of the Sector Report will be prepared, which looks at the overall impact of the APF on the sector. The signatories to the APF agreement have committed to reporting annually on the progress of the APF. These two reports will allow us to obtain an understanding of overall progress being made on our strategic policy objectives. Key information will be summarized in our annual Departmental Performance Report.

APF ENVIRONMENTAL LOGIC MODEL

AAFC STRATEGIC OUTCOME

Health of the Environment - Making Canada the world leader in using environmental resources in a manner that ensures their quality and availability for present and future generations.

DEPARTMENTAL PRIORITY

Achieving environmental sustainability of the sector and progress in the areas of soil, water, air and biodiversity.

END OUTCOMES

- Improved stewardship by agricultural producers of the soil, water, air and biodiversity

PERFORMANCE INDICATORS

- Share of farmland at different levels of residual nitrogen and phosphorous
- Share of farmland at different levels of risk of water contamination by nitrogen and phosphorous
- Share of cropland at different levels of risk of water erosion
- Rate of change in organic carbon levels in agricultural soils
- Levels of agricultural emissions of greenhouse gases
- Change in the availability of wildlife habitat on farmlands

APF ENVIRONMENTAL LOGIC MODEL (continued)

TARGETS

By 2008:

- A reduction in the average level of residual nitrogen from agriculture.
- A reduction in the risk of nitrogen water contamination from agriculture.
- A reduction in the estimated average rate of water erosion on crop land.
- An increase in the annual change in agricultural soil carbon.
- A reduction in agricultural greenhouse gas emissions.
- An increase in the total agricultural habitat availability.
- The completion of a basic environmental scan covering all farms so as to identify farms and/or agricultural regions posing significant risk to the environment.
- The completion of an environmental farm plan or an equivalent agri-environmental plan for all farms where agricultural activity is found to pose significant risk to the environment as identified through the aforementioned process.
- The implementation of an environmental farm plan or participation in an equivalent agri-environmental plan on a minimum of 75% of farms where agricultural activity is found to pose significant risk identified through the aforementioned process and, in so doing, adopt the necessary measures needed to improve the management of nutrients, pests, land and water, nuisances and biodiversity, as appropriate to the needs and circumstances of individual farms or regions.

APF ENVIRONMENTAL LOGIC MODEL (continued)

INTERMEDIATE/ IMMEDIATE OUTCOMES

- Increased adoption of environmentally beneficial management practices by agricultural producers in the management of land, water, air and biodiversity
- Increased adoption of new technologies, practices and /or processes by agricultural producers that aid in reducing agricultural risks and increasing environmental benefits
- Conversion by agricultural producers of environmentally sensitive crop land to perennial cover
- Adoption of shelterbelts by agricultural producers
- Improved capacity for agricultural producers to deal with drought situations throughout Canada.
- Standardized development, maintenance, and use of land and water information databases across Canada by the federal government and its partners
- Producers identified for accelerated environmental action, complete Environmental Farm Plans and/or Equivalent Agri-Environmental Plans
- Provincial agricultural land scans completed by all provinces

PERFORMANCE INDICATORS

- Total number of beneficial management practices used by producers
- Number of innovative environmental technologies used by agricultural producers
- Change in the level of conversion by agricultural producers of environmentally sensitive crop land to perennial cover
- Number of hectares protected
- Number of acres irrigated
- Level of standardization by the federal government and its partners for development, maintenance, and use of land and water information databases across Canada
- Number of agricultural producers with completed EFPs and/or EAEPs.
- Level of coverage by provincial scans of agricultural land in Canada.

APF ENVIRONMENTAL LOGIC MODEL (continued)

DELIVERABLES (OUTCOME PROJECTS)

- Policy integration with Government of Canada environmental domestic and international policy priorities
- Alignment of federal and international policy and programs with APF
- Innovative environmental technologies assessed and refined for use by agricultural producers and agri-businesses
- National Agri-Environmental Health Analysis and Reporting Program (NAHARP)
- NAIS - knowledge and capacity development
- National standards developed to be used to measure agricultural producers contribution to environmental sustainability.
- New knowledge, tools and processes in:
  - soil assessment, use and health
  - water quality and quantity
  - air quality
  - biodiversity
  - integrated pest management
- Environmental technology assessment for Agriculture (ETAA)
- National Land and Water Information Service (NLWIS)
- Environmental Farm Plan program
- Beneficial Management Practices (BMPs)
- Greencover Canada (GCC)
- National Water Supply Expansion Program and Rural Water (NWSEP)
- Special Water Projects
- Prairie Shelterbelt Program
- Action Plan 2000 on Climate Change (AP2000) – Shelter Enhancement Program (SEP)

PERFORMANCE INDICATORS

- AAFC environmental policy aligns with federal government, domestic and international policies
- Number of collaborative agreements with partners to assist in establishing national standards
- Number of new scientifically validated reports, maps, data bases and interpretive web products for on-farm use and for use by AAFC (e.g. NLWIS, NAHARP, NAIS, and NCGAVS)
- Degree of involvement with partners and OGDs in development of agri-environmental indicators
- Number of new BMPs available for use by agricultural producers
- Number of innovative environmental technologies assessed for use by agricultural producers
- Number and quality of methods, technologies, products, and information for :
  - soil assessment, use and health
  - water quality and quantity
  - air quality
  - biodiversity
  - integrated pest management
- Number of assessments of innovative environmental technologies completed
- Availability of NLWIS to stakeholders
- Number of provinces with EFP programs that meet the national model
- Number of publications, training and demonstrations of BMPs
- Number of applications approved to: convert environmentally sensitive cropland to perennial cover; improve riparian areas and establish shelterbelts
- Number of water projects approved

APF ENVIRONMENTAL LOGIC MODEL (continued)

ACTIVITIES

- Development of Agricultural Standards (including Farm Certification)
- Develop a framework for Canadian farmers on environmental farm certification by examining existing tools, including regulations, standards, best practices and codes of practice (components of National Study of Regulations, Standards Development and Farm Certification).
- Identify and understand activities by agricultural producers which negatively impact on soil, water and air by measuring the impact of nutrients, all manures, other organic residues and pesticides.
- Conduct fundamental research throughout Canada to better understand and manage the impact of agricultural practices on the environment and to develop new technological solutions to key problems for stakeholders in the agriculture sector (Environmental Technology Assessment Program (ETAA) - Farming Systems & Practices component)
- AAFC scientists will identify and assess state-of-the-art technologies in cooperation with the private sector to minimize the contamination of soils, water, air and to promote a reduction and improve efficiency in energy use, move toward greater use of renewable energy, and enhance the compatibility between agriculture and the environment (ETAA - Technology Assessment component)
- In cooperation with Health Canada, AAFC scientists will develop and implement more effective control mechanisms to reduce risks to human health (Water Quality Surveillance component).
- AAFC will share its expertise in the areas of sustainable agriculture with least developed countries (Sharing Knowledge Internationally component)
- Provide land use decision makers with the best land and water information and decision support systems that encourage improved decision making through access to technical skills and spatial information
- Refine the existing and building new agri-environmental indicators to provide information to ag. Policy makers on a national, provincial or regional scale.
- Develop integrated economic/environmental modeling and forecasting tools for ag. policy decision makers
- Develop economic models to quantify the economic costs and benefits of environmental change in agriculture to farmers and society
- Develop an agri-environmental scanning process for the Canadian agriculture sector to identify actual and potential environmental risks associated with agricultural operations.
- Deliver educational material related to the development of EFP to producers.
- Provide funding to producers to encourage the adoption of beneficial management practices (BMPs) on farms in areas of nutrient management, pest management, land and water management, nuisance management and biodiversity management.
- Develop and implement incentive program for ag. producers to convert environmentally sensitive cropland to perennial cover (Land Conversion component)
- Provide technical assistance to land managers to encourage the adoption of more sustainable land use and land management practices on environmentally sensitive lands and critical areas (Technical Assistance component)

APF ENVIRONMENTAL LOGIC MODEL (continued)

ACTIVITIES (continued)

- Provide financial assistance to producers to support appropriate livestock and cropping management practices within riparian areas, to mitigate the impact of agricultural contaminants (e.g. manure from livestock operations, pesticides from annual cropping) on water courses and to maintain or improve water quality, biodiversity and overall riparian health (Critical Areas component)
- Support the use of trees and shrubs for non-forestry purposes by Ag. Producers across Canada to achieve agricultural and environmental benefits related to soil and water conservation, improvements in energy efficiency, wildlife habitat and to sequester atmospheric carbon (National Shelterbelt component)
- Provide technical and financial assistance to rural Canadians for the development of water supply infrastructure in all provinces (Infrastructure component)
- Undertake strategic work that will improve the knowledge base of the water resource and improve the water development decision making capacity by people in rural agricultural areas (Strategic studies component).

APF FOOD SAFETY AND QUALITY LOGIC MODEL

AAFC STRATEGIC OUTCOME: SECURITY OF THE FOOD SYSTEM

Making Canada the world leader in producing, processing and distributing safe and reliable food to meet the needs and preferences of consumers.

DEPARTMENTAL PRIORITY: FOOD SAFETY AND QUALITY

Minimizing the risk and impact of food-borne hazards on human health, increasing consumer confidence and improving the sector's ability to meet or exceed market requirements for food products.

END OUTCOMES

- Protection of human health by reducing exposure to hazards.
- Consumer confidence in the safety and quality of food produced in Canada.
- Industry's ability to meet or exceed market requirements for agri-food safety and quality.
- Value-added opportunities through the adoption of food safety and food quality systems are being captured.

PERFORMANCE INDICATORS

- Reduction of exposure to agri-food hazards
- Increase in the level of consumer confidence in the safety and quality of food produced in Canada
- Improvement in relative performance of Canadian companies when compared to foreign companies in meeting or exceeding market requirements for food safety and food quality
- New markets made available as a result of the adoption of the Canadian food safety and quality systems.

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

TARGETS

By 2008:

- Development of, or participation in, industry-developed and government-recognized on-farm food safety process control systems by all commodity sectors.
- Participation in food safety process control systems, developed or to be developed by industry and recognized by government, of all sectors of the agri-food continuum to the retail level.
- Participation in food process control systems for quality, developed or to be developed by industry and recognized by government, by all sectors requesting a national system for food quality to meet market requirements and consumer demands.
- Development by industry of traceability systems which would allow for 80% of domestic products available at the retail level to be traceable through the agri-food continuum.
- Development by industry of traceability components for all products/commodities within the food quality and food safety control systems.
- Increase in the rate of transfer of technology arising from publicly-supported research and development to support Hazard detection and control.
- Sharing among governments and, where appropriate, with industry and other partners, of relevant data and information to support public health and food safety systems, and the ready availability of such data and information.

IMMEDIATE/ INTERMEDIATE OUTCOMES

- National integrated food safety and quality system is enhanced.
- Innovative technologies and processes that contribute to safer and higher quality food products, are adopted by industry
- Common understanding of the elements of our national food safety and quality system encourage all partners in the food continuum to play their part in the refinement of this system.

PERFORMANCE INDICATORS

- Progress in the implementation of a common plan of action by federal, provincial and territorial governments as well as by industry
- Level of adoption by industry of the innovative technologies and processes developed
- Increase in the level of Canadian consumers' and foreign buyers' confidence in agriculture and agri-food products produced in Canada

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

DELIVERABLES	PERFORMANCE INDICATORS
A National Integrated Agri-Food Safety and Quality System	
• A decision-making framework for food safety issues in Canada is developed and implemented by federal, provincial and territorial governments; • A federal, provincial and territorial policy framework for food safety and food quality in Canada is developed; • Incentive measures to encourage the development of specific strategic elements of this national food safety and quality strategy by industry are developed and implemented	• Number of governments that agree to implement the decision-making framework • Policy documents on animal health, animal welfare, traceability and food quality developed and shared with governments, industry and stakeholders • Policy document on risk-based approach to incentive measures developed and shared with industry • Number of HACCP based systems developed by industry
Innovative Technologies and Processes that Contribute to Safer and Higher Quality Food Products	
• Methods to detect, characterize and control food safety hazards on the farm and throughout the food production systems are developed and shared with industry; • Knowledge and strategies to enhance food quality to meet consumer expectations; • Knowledge to enhance and preserve the nutritional value throughout the food chain; • Knowledge base in support of the development of functional foods and nutraceuticals in Canada; • New processing platform technologies to improve production efficiency and deliver safe, nutritious and quality food to consumers. • A plan to ensure the knowledge/tools/ technologies developed are transferred to industry in a timely manner is developed and implemented by AAFC scientists.	• Methods, knowledge/strategies, technologies developed • Publication of results in peer-reviewed scientific journals • Presentation of results at conferences • Methods, knowledge/strategies, technologies communicated/ transferred to end users • Degree of adoption by industry of the knowledge/tools/ technologies developed

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

DELIVERABLES (continued)	PERFORMANCE INDICATORS (continued)
Maintaining and Enhancing Confidence in Food Safety and Quality in Canada • A strategy to communicate the progress made by governments and industry on food safety and quality so as to increase Canadian consumers' and foreign buyers' confidence in the safety and quality of the agriculture and agri-food products produced in Canada is developed and implemented.	• Communication products to target Canadian consumers and foreign buyers are developed and distributed in food fairs and international venues.

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

ACTIVITIES

A National Integrated Agri-Food Safety and Quality System

- **Development, in consultation with provincial and territorial governments, of a framework to facilitate a concerted decision-making process for food safety issues in Canada.**

Governance

- Develop a governance structure for federal-provincial-territorial decision-making process for food safety issues in Canada
- Develop memoranda of understanding with other federal government departments involved in activities contributing to the enhancement of Canada's food safety and quality system.
- Negotiate the terms and conditions of the Agriculture Policy Framework Implementation Agreements with the provincial and territorial governments.

Legislative Review

- Review of legislation governing food safety in Canada and work towards a harmonized set of federal-provincial-territorial legislations.

Food Safety and Quality Information System

- Inventory and analysis of existing information gathering and dissemination systems
- Identification of any legal impediments associated with data gathering, sharing and dissemination and development of a proposed strategy for addressing these implications.

Traceability

- Development of guidance documents on the federal-provincial-territorial links to traceability systems leading to joint action plans
- Consultation with governments and industry in the development of a national information/coordination system for traceability projects and issues.

- **Development, in consultation with governments, industry and stakeholders, of a common vision and an overarching strategy for food safety and food quality in Canada, featuring, for example, specific policies on animal welfare, food quality standards, and animal health;**
- Consultation with governments, industry and stakeholders, to develop elements of the common vision and overarching national strategy for food safety and food quality in Canada, including a value-chain action plan.
- Develop policy for feed
- Develop policy for animal welfare
- Develop policy for monitoring and surveillance

HACCP-based food safety systems

- Develop policy for government recognition of industry developed food safety process control systems

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

ACTIVITIES (continued)

Food Quality Standards

- Work with the Canadian General Standards Board (CGSB) and the Canadian Food Inspection Agency (CFIA), industry and stakeholders to develop food quality standards for wine, whiskey, organic food and labelling of genetically engineered food products
- Work with International Team, DFAIT, industry and governments to ensure international recognition of the food quality standards developed
- Develop policy for Canadian government recognition of industry developed food quality standards

- **Design and implementation of incentive measures to encourage the development of specific strategic elements of this national food safety and quality strategy by industry e.g. HACCP based systems from farm production to the delivery of agriculture and agri-food products at retail level and food services level, and tools to ensure traceability of agri-food products through the food chain.**
- Consultation with industry and governments on the development of a Canadian food safety and quality program to support industry
- Development of a communication strategy to enhance industry understanding of the principles underlying food safety process control systems so that they can translate these into action.

- **Development, with governments and industry, of a national animal health policy in the light of lessons learned through the management of various animal health crises such as BSE (may 2003).**
- Consultation with governments and industry to develop a national animal health policy for response to disease outbreak in Canada

Innovative Technologies and processes that contribute to safer and higher quality food products

- **Development of methods to detect, characterize and control food safety hazards on the farm and throughout the food production systems.**
- Development and application of methods for the detection, characterization and quantification of food safety hazards in food production systems and food products.
- Determination of the origin, distribution and fate of hazards during food production, processing, storage and distribution.
- Development of intervention strategies to control hazards in foods at each stage of production from the farm to the consumer.

APF FOOD SAFETY AND QUALITY LOGIC MODEL (continued)

ACTIVITIES (continued)

- **Development of knowledge and strategies to enhance food quality to meet consumer expectations.**
- Understanding consumer perceptions and expectations about food quality
- Understanding the intrinsic bases of food quality
- Development and application of tools to determine and monitor food quality
- Development and application of strategies to maintain or enhance food quality

- **Development of knowledge to enhance and preserve the nutritional value throughout the food chain**
- Development and application of tools to monitor food nutritional value
- Development of strategies to maintain or enhance food nutritional value

- **Building of knowledge base in support of the development of functional foods and nutraceuticals in Canada.**
- Identification, characterization, and quantification of food components that impact on nutrition and health
- Development and application of in vivo and in vitro models to measure and characterize food and food components
- Study of the impact of food and food components on health and disease

- **Development of new processing platform technologies to improve production efficiency and deliver safe, nutritious and quality food to consumers.**
- Development of innovative preservation, processing, packaging, handling and distribution technologies for processed food products
- Development and improvement of storage, packaging and distribution technologies for fresh agricultural products
- Development of new value-added food products and ingredients through the application of innovative or improved technologies

- **Development of a strategy to ensure the knowledge/tools/technologies developed are transferred to industry in a timely manner**
- Consultation with scientists and industry to develop a technology transfer strategy.

Maintaining and Enhancing Confidence in Food Safety and Quality in Canada

- **Development and implementation of a communication strategy to increase Canadian consumers' and foreign buyers' confidence in the safety and quality of agriculture and agri-food products produced in Canada.**
- Development of a communication strategy for Canadian consumers inform them of the different elements of the national food safety and quality system.
- Development of a communication strategy for foreign buyers' to inform them of the different features and safeguards of Canada's national food safety and quality system.

APF RENEWAL LOGIC MODEL

AAFC STRATEGIC OUTCOME: INNOVATION FOR GROWTH

Making Canada the world leader in innovation to develop food and other related agricultural products and services that capture opportunities in diversified domestic and global markets.

DEPARTMENTAL PRIORITY: RENEWAL

Equipping the sector with new business and management skills, bioproducts, knowledge based production systems and strategies to capture opportunities and manage change.

END OUTCOMES

- Farmers are successful farm operators.
- Farmers increase their profitability.
- Farmers make choices about sources of income.
- Farmers meet market and consumer demands respecting food safety and food quality and environmentally-responsible production.
- Farmers capture opportunities from science and innovation.
- Farmers recognized for excellence in innovation and risk management.

TARGETS

Targets to be developed by March 2004.

PERFORMANCE INDICATORS

- **Percentage (%) of farmers and farm families who are meeting their business and personal goals:**
- Net farm income.
- Farm family income.
- Agriculture and agri-food share of world agri-food trade.
- Agriculture and agri-food contribution to Gross Domestic Product (GDP), employment and rural areas.
- Attitudes towards Canadian agriculture and agri-food.
- Number of dollars provided through government and private capital suppliers for agriculture and agri-business opportunities.
- Number of applicants successfully borrowing money from recognized financial institutions for the purpose of purchasing or developing a farm unit.

APF RENEWAL LOGIC MODEL (continued)

IMMEDIATE/ INTERMEDIATE OUTCOMES:

- Farmers are adopting strategies to increase income and profitability:
  - strategic planning;
  - innovation; and risk management;
  - diversification of income sources;
  - marketing;
  - benchmarking;
  - business, venture and succession planning;
  - financial, human resource and technology management;
  - lifelong learning;
  - monitoring advances in science;
  - feasibility analysis;
  - networking.

PERFORMANCE INDICATORS

- **Percentage of farmers and farm families who are using beneficial management tools, services, practices and/or improved skills:**
- Number of clients using business plans as a tool to secure financing.
- Number of farmers who effectively manage their business risk.
- Number of farmers developing new income sources.
- Number of farmers establishing or expanding value-added enterprises.
- Number of farmers possessing formal written succession plans.
- Percentage of farmers with a written business plan.
- Percentage of farmers with a written plan for: strategic goals; risk management; human resources; finances; marketing; food safety and quality; environment.
- Utilization rates of benchmark information.
- Adoption levels of additional beneficial farm management practices such as: level of use of annual budgets, balance sheets, cash flow and financial statements; level of use of computer and software for farm business management; level of use of information to make business decisions.
- Use of farm business management practices that facilitate innovation (market information products and networks; CFBMC science information website; feasibility analysis; and/or business plans).

APF RENEWAL LOGIC MODEL (continued)

IMMEDIATE/ INTERMEDIATE OUTCOMES: (continued)	PERFORMANCE INDICATORS (continued)
• Farmers are improving their ability to make choices: - Beginning farmers acquire the requisite skills, knowledge, tools and risk management opportunities to be successful farm operators. - Farmers upgrade management and technical skills, particularly as these relate to environmental management, food safety and food quality, new products and markets and science and innovation. - Farmers choosing to pursue alternative income opportunities develop the requisite skills to do so. - Farmers assess the performance and potential profitability of their farm business; enhance their ability to make business management decisions; and explore and develop market opportunities. - Farmers are aware of and engaged in Renewal.	• **Percentage (%) of farmers and farm families who have increased knowledge and understanding of beneficial management practices.** • **Percentage of farmers and farm families who indicate they have acquired the skills and knowledge necessary to manage change, capture opportunities and improve income and profitability.** • Use by industry (Canadian Farm Business Management Council) of new knowledge on innovation and risk reduction practices of leading farmers to promote beneficial management practices. • Percentage of farmers who are aware of and/or participating in programs and services related to business management, skills development and capture of opportunities.

APF RENEWAL LOGIC MODEL (continued)

DELIVERABLES:	PERFORMANCE INDICATORS
Awareness Raising • Raising awareness of Renewal programming (Renewal website). • Creating greater awareness of advisory services in the private sector (CFBAS). • Improving access to best practices information, networks, and mentoring, in order to change attitudes and behaviors regarding advice and business planning (Benchmark website, CFBMC support for management clubs).	• Creation, production and distribution of a document outlining the skills, attitudes and practices of the top twenty per cent of Canadian farms, by region and farm type. • Number of farmers who are active members of mentoring and/or peer groups, management clubs, syndicates, farmer-directed groups, etc.
Benchmarking • Making benchmark, management and marketing information available to assist farmers in enhancing their profitability (Benchmark website).	• Number of benchmark studies and market information products developed during the assessment time period.
Farm Business Advisory Services • Enhancing and improving access to public and private management and consulting services providing business and succession information, using contracted expertise or public expertise, or any combination thereof, to deliver services(CFBAS). • Developing options to respond to situations where farmers may not otherwise qualify for, or be adequately covered by, risk management programs (financial assessments, action plans). • Making a follow-up service available to assist farmers in making decisions on their future (CFBAS follow-up service).	• Availability of a network of advisory services. • Number of clients per target group accessing advisory and/or information services. • Number of farmers who have assessed their financial situation. • Development of options for beginning farmers, farmers with exceptional or recurring losses and farmers who may not benefit from new risk management programs.
Capturing Opportunities • Supporting and developing networks relating to scientific advances so as to create new economic opportunities for farmers. • Promoting research to increase the transfer of technology resulting from advances in science and innovation.	• New knowledge on the role of networks, value chains and the internet being used by industry and rural communities to accelerate the adoption of science and innovation.

APF RENEWAL LOGIC MODEL (continued)

DELIVERABLES: (continued)	PERFORMANCE INDICATORS (continued)
• Improving the dissemination of information relating to science and innovation. • Establishing or further developing programs, such as CFBAS's specialized services or PAVE, to foster new economic opportunities through to commercial feasibility.	
Skills and Development • Promoting learning opportunities in business management, environmental management, food safety and food quality (CFBMC website; skills assessment tools). • Providing access to training and support programs for farmers who, in their pursuit of off-farm options, choose to further develop and apply their skills to other career-related activities (AEP). • Establishing a joint public and private process to develop a consensus on the type of skills that are needed for future development of the agriculture sector, where such a process does not already exist (advice to HRDC on sector council).	• Number of farmers and their spouses who participate in a skills assessment, and/or in the development of an individual learning plan. • Number of farmers and their spouses who undertake learning activities to upgrade management and technical skills and enhance skills applicable to on-farm ventures or off-farm income. • Note: the above are based on the Framework Agreement indicators: Number of farmers receiving assessment of, and/or training to enhance skills applicable to off-farm income; Number of participants attending learning opportunities in environmental management and food safety and business management; and Number of farmers who enroll in/access learning programs. • Establishment of a mechanism to identify the skills and corresponding training needs for the development of the sector.
Access to Capital • Improving access to, and awareness of, services that assist farmers in securing financing for farms and other agri-business ventures (CFBAS, PAVE). • Encouraging private investors to engage in farm and other agri-business opportunities.	• Report on the number of dollars provided through government and private capital suppliers for agriculture and agri-business opportunities. • Number of farmers who use CFBAS specialized services and PAVE.

APF RENEWAL LOGIC MODEL (continued)

ACTIVITIES

Consultation

- Developing the federal position and a federal/provincial/territorial approach to address gaps in information, advisory services and learning initiatives.
- Identifying the appropriate federal role in mentoring and other peer support activities.
- Developing the federal position and a federal/provincial/territorial approach regarding capturing opportunities including the identification of new initiatives.
- Engaging expertise within HRDC, FCC, provinces/territories, community colleges, CFBMC and industry associations in program design.

Awareness Raising

- Analyzing farmer attitudes toward Renewal Priority-type programs; farmer usage of off-farm expertise, continuous learning, and beneficial management practices.
- Developing message and strategy for reaching target groups.

Benchmarking

- Developing a benchmark website with links to information on farm management.
- Developing an interactive benchmarking tool which allows producers to compare their farm data with other farms of similar size, specialization and region; and other diagnostic/assessment tools that help analyze farm performance.
- Developing benchmarks to help farmers assess their performance.
- Creating, producing and distributing a series of documents outlining the skills, attitudes and practices of top/leading Canadian farms by farm type.

Farm Business Advisory Services

- Developing and delivering the Canadian Farm Business Advisory Services (CFBAS)/Planning and Assessment for Value-Added Enterprises (PAVE): assessing farmer finances and developing action plans and business plans (financial plans, marketing plans, succession plans, and value-added enterprise plans).
- Coordinating applications and contracted financial consultants.

Capturing Opportunities

- Developing an inventory of market information sources and analysis of linkages with research decisions.
- Identifying regulatory constraints affecting income and innovation opportunities.
- Exploring new generation co-operatives as a business model to help the sector capture innovation opportunities.
- Assessing current mechanisms and best practices of technology transfer within the sector.
- Identifying the policy/program changes needed to foster cooperatives.
- Note that Renewal advisory services and PAVE also facilitate capturing opportunities, through feasibility assessment and business planning assistance.

APF RENEWAL LOGIC MODEL (continued)

ACTIVITIES (continued)

Skills and development

- Assisting with a sector council feasibility study funded by HRDC.
- Identifying skills of top-performing producers and unique skill needs of beginning farmers.
- Developing a contribution agreement with the Association of Canadian Community Colleges (ACCC) to research the student market, advisory groups and curriculum development.
- Developing a contribution agreement with CFBMC to provide new tools, information and services, reflecting the APF priorities.
- Delivering skills assessment, training and living allowances through an Agricultural Enterprise Program.

Access to Capital

- Undertaking baseline studies on access to capital and development of federal-provincial-territorial strategies to address any gaps, particularly for young farmers and agribusiness.
- Providing input into the review of Farm Improvement and Marketing Co-operatives Loan Act (FIMCLA) program to cover possibility of providing loan guarantees to beginning farmers.
- Note that Renewal advisory services and PAVE also facilitate access to capital, through feasibility assessment and business planning assistance.

Performance Reporting and Evaluation

- Evaluating through follow-up with clients (surveys and meetings), assessing the impact of services provided on viability of farmer's operation; evaluating the success rate of Renewal Priority programming; and collecting information for measuring performance and reporting to citizens on APF.

APF SCIENCE AND INNOVATION LOGIC MODEL

AAFC STRATEGIC OUTCOME: INNOVATION FOR GROWTH

Making Canada the world leader in innovation to develop food and other related agricultural products and services that capture opportunities in diversified domestic and global markets.

DEPARTMEMNTAL PRIORITY

Equipping the sector with new bioproducts, knowledge based production systems and strategies to capture opportunities and manage change.

END OUTCOMES

- Attracting public and private sector investors from Canada and elsewhere.
- Benefits accrued to all stakeholders, from basic researchers, to suppliers, producers and consumers.
- Canada attracts and retains both the financial and human resources required to achieve the growth desired.

PERFORMANCE INDICATORS

- The market share of bioproducts produced in Canada.
- The impact on rural economic development of investments, or, economic activity in bioproducts and the priority areas.
- Employers access to skilled labour in the biobased economy.
- The number of people employed in the bio-based economy.

APF SCIENCE AND INNOVATION LOGIC MODEL (continued)

IMMEDIATE/ INTERMEDIATE OUTCOMES

Realigning Public Science Resources:

- Parties, academic institutions and industry to realign and increase investments to support science and innovation in the priority areas, as well as in biomass, bioproducts and bioprocess research.
- Increase the level of investment in innovation in agricultural and bio-products from non-agricultural sources (such as investors) within Canada and elsewhere.

Creating an Innovation Climate:

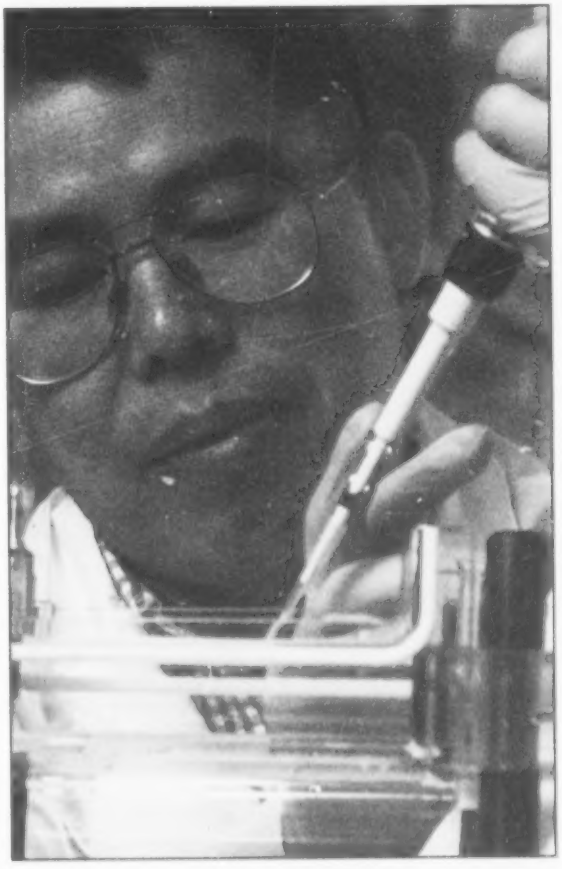
- Accelerate the development and adoption of innovations in the agriculture and agri-food sector (while maintaining an effective science-based and transparent agriculture and agri-food system)
- Better utilize intellectual property from publicly-supported research to enhance the growth of the agriculture and agri-food sector
- Target secondary and post-secondary institutions to ensure that the human resources and infrastructure needed for science and innovation innovations in the agriculture and agri-food sector are available in Canada.

Coordinating Along the Whole Value Chain:

- Expand and strengthen linkages, across the value-chain, between the agriculture and agri-food sector and the science and innovation community, both within Canada and internationally.
- Improving technology transfer, coordination, communication and collaboration across market, policy and scientific disciplines, research organizations, and throughout the value-chain is intended for all stakeholders.

PERFORMANCE INDICATORS

- Levels of investment by non-agricultural sources in science and innovation in the priority areas.
- The number of new research and innovative projects that are commercialized.
- The number of persons enrolled in post secondary institutions in subjects related to the biobased economy
- Number of producers that become engaged in value chain activities beyond production of the raw commodity.



APF SCIENCE AND INNOVATION LOGIC MODEL (continued)

DELIVERABLES

- Policy, regulations and processes to create an innovative climate for various stakeholders.
- Innovation Strategy Program
- Training, Recruitment and Retention of graduate students, post docs, and other hires.
- Various agreements, Memorandum of Understandings, co-locations, co-sponsorships, collaborations, international committees, standards, and the Matching Investment Initiative are aimed at public and private sector organizations, associations and Institutes.
- Protection of IP (patents, designs, processes, or systems) is intended to benefit Canada's innovative community (such as tech transfer offices).
- Publications and reviews (of or in refereed journals, books, chapters, investigative or unpublished reports, proceedings), presentations (conference presentations, symposia (national or international) are intended to share knowledge with the scientific community.

PERFORMANCE INDICATORS

- Levels of investment by the Parties, academic institutions and industry in science and innovation in the priority areas and in bio-products.
- Increase in the number of highly skilled science professionals.
- The number of collaborative arrangements based on science and innovation across the value chain.
- The number of publications, licensing agreements and patents awarded in the agriculture and agri-food sector.

ACTIVITIES

- Research and development under two National Programs arranged in twelve Themes as follows:
- Sustainable Production Systems - research to develop systems of crop (including new crops) and livestock production that are economically and environmentally sustainable and improve the competitiveness of Canadian agri-food products in domestic and international markets. Themes are: Cultivar development and Genetic Enhancement, Grains and Oilseeds, Field Crops, High-Value Crops, Livestock Production Systems, Animal Behaviour and Welfare.
- Bioproducts and Bioprocesses - research to discover and develop value-added biobased products and processes. Themes are: Biobased Products and Processes, Genomics Bioinformatics and Other Bioinformation.
- Supporting functions include strategic planning (priority setting), knowledge sharing and technology transfer, market analyses, economic studies (macro and micro analyses).

APF BUSINESS RISK MANAGEMENT LOGIC MODEL

AAFC STRATEGIC OUTCOME

Security of the Food System: making Canada the world leader in producing, processing and distributing safe and reliable food to meet the needs and preferences of consumers.

DEPARTMENTAL PRIORITY

To enhance producers' capacity to manage risk and to increase the sector's viability and profitability.

END OUTCOMES

- Increased producers' capacity to manage business risks
- Increased sector viability and profitability

PERFORMANCE INDICATORS (NATIONAL AND BY PROVINCE)

- Reduced downside variability of farm income and operating margin (after adjusting for lags in payments) over time
  - Comparing farm income with and without program payments
  - Comparing operating margin of farmers who participate in programs to those who do not participate
  - Comparing variability between program options, and with other instruments including supply management systems.
- Increased sector farm income and operating margin (after adjusting for lags in payments) over time
  - With and without program payments
- Increased value of farm capital investments over time

APF BUSINESS RISK MANAGEMENT LOGIC MODEL (continued)

IMMEDIATE/ INTERMEDIATE OUTCOMES

- Increased utilization of risk management tools
- Increase in farmers' investments
- Increased Participation to programs that help mitigate risks faced by the sector
  - Targeted producers participate in PSRMP to mitigate risks of business interruption and to have access to new private risk management tools
  - Targeted producers participate in Production Insurance programs to mitigate production loss risks
  - Targeted producers participate in CAIS program to mitigate income loss risks
  - Targeted producers participate in lending program to ease cash-flow issues
  - Targeted producers participate in programs that address emergencies
- Stakeholders understand and accept the importance of being pro-active in managing their business risk
- Producers are aware of risk management programming and how the elements work together

PERFORMANCE INDICATORS (NATIONAL AND BY PROVINCE)

- Number of producers using public and private risk management tools
  - Overall, by farm type and revenue class
- Producers satisfaction (participating and non-participating)
  - Program options
  - Level of benefits
  - Timing of payments
  - Program conditions (eligibility, premiums or contributions)
  - Application process
- Value of farm capital investments
- Participation rate (number of participants, % of targeted producers or % targeted acreage/production):
  - By program,
  - Participation in two or more BRM programs
  - By coverage level (CAIS and Production Insurance)
- Value of cash flow advances
- Number and % of producers aware of programs under BRM priority and how these programs work together

APF BUSINESS RISK MANAGEMENT LOGIC MODEL (continued)

DELIVERABLES

- Improve the tools available to producers for the purpose of managing business risk (Framework Agreement, 15.1.1)
  - Redesigned NISA:
    - CAIS: income stabilization with on-going and predictable disaster program
    - CAIS: streamlined application process for farmers
    - Linkages between CAIS and Production Insurance
  - Production Insurance
    - Expanded coverage (more commodities)
    - Broader range of program choices
  - Private Sector Risk Management Partnerships (PSRMP)
    - Business Interruption Insurance
    - Funds commodity or farm groups to develop business case for specific line of insurance by potential insurers
  - Redesigned Cash Advances Program
  - Investments program
  - Redesign FIMCLA program
  - Realign SCAP and AMPA with APF objectives
- Information sessions and information packages on new BRM programs and services
- Signed MOUs/ contracts/ agreements with partners and co-deliverers
- Assessment of programs under Business Risk Management priority

PERFORMANCE INDICATORS (NATIONAL AND BY PROVINCE)

- Availability of programs across Canada (program options available in each province):
  - CAIS coverage options
  - Production insurance schemes
  - PSRMP initiatives
  - Investment initiatives
  - Options in lending programs
- New programs or new program features are effective:
  - new options defined along with targeted reach (acreage or value of production)
  - sound production insurance and actuarial standards are effectively implemented in all new production insurance schemes
  - linkages between Production Insurance and CAIS are effective
  - improvements to lending programs
  - new or improved programs for emergency management
- Value of overlap in program payments eliminated as a result of linkages between CAIS and Production Insurance
- Number of information sessions by program
- Number of information packages, handbooks distributed by program

APF BUSINESS RISK MANAGEMENT LOGIC MODEL (continued)

DELIVERABLES (continued)

- Assessments of the impacts of emergencies to ensure that AAFC and other departments consider the special needs of the agriculture and agri-food sector with respect to emergencies management
- Reports from annual reviews of policies and programs
  - Analysis of gaps in BRM tool sets and individual programs
  - Recommendations to Minister in order to continuously improve BRM policy and programs
  - Recommendation to redesign policy and programs, in consultation with stakeholders (provinces, industry)
- FIPA legislation updated

PERFORMANCE INDICATORS (continued)

- Progress on signing of agreements and program implementation:
  - number of provinces / territories who signed framework agreements
  - number of provinces / territories who signed implementation agreements
  - number of MOU/contracts signed with industry organizations or third party delivery for specific programs
- Assessment and Review reports completed on time
- New FIPA legislation in place

APF BUSINESS RISK MANAGEMENT LOGIC MODEL (continued)

ACTIVITIES

- Conduct annual reviews of BRM elements of the APF (with stakeholders participation)
- Monitor administrative efficiency of risk management programs
- Provide advice to support policy decision-making with respect to development or improvement of programs
- Conduct consultations with stakeholders in order to evaluate programs' effectiveness and to develop and improve programs through a consensus approach
- Conduct research and analysis to determine impacts of BRM on sector performance
- Communicate results of analyses to stakeholders
- Perform environmental assessments of BRM programs
- Develop federal-provincial-territorial performance reporting system (model) to improve program delivery and linkages
- Develop and maintain an integrated database system for the delivery of Business Risk Management programs
- Develop farm level data and information
- Ensure clear policy direction and integration of BRM programs (design linkages between CAIS and PI in order to avoid duplication of programs)
- Assess and implement changes to FIPA and other legislative authorities for implementation of BRM policies
- Develop and implement CAIS program, including linkages with Production Insurance and other APF elements (in accordance with the Framework Agreement)
- Develop and implement new Production Insurance schemes, including linkages with CAIS and other APF elements (in accordance with the Framework Agreement)
- Provide policy options and analysis for the development of private risk management tools
- Develop and implement new Private Sector Risk Management Program
- Realign SCAP and AMPA programs with the APF objectives
- Redesign FIMCLA program
- Develop additional programs to better protect from business risk (including disasters) that are beyond farmers' control, if required (e.g. BSE recovery program)
- Contribute to the development of emergency management policies (prevention, preparedness, response and recovery) to ensure that these policies respond to the needs of the agriculture and agri-food sector
- Assess the impact of each emergency and advise on policy responses
- Develop Investment policy options
- Develop transition plan for federal bridge funding
- Develop partnerships with commodity groups to deliver risk management tools
- Negotiate MOUs/contracts/agreements with partners and co-deliverers
- Develop a communications plan to build awareness of available risk management tools

APF INTERNATIONAL LOGIC MODEL

AAFC STRATEGIC OUTCOME

To make Canada a world leader in:

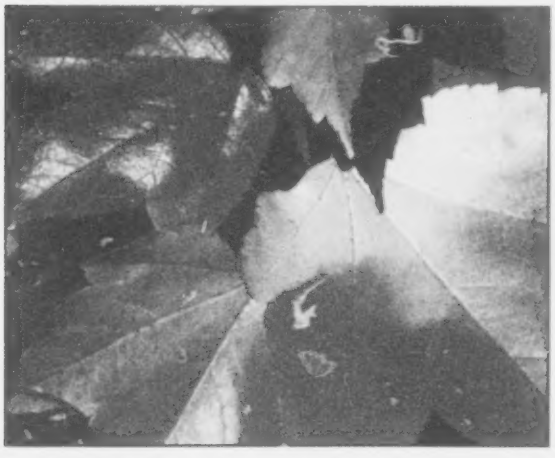
- **Security of the Food System** - in producing, processing and distributing safe and reliable food to meet the needs and preferences of consumers, and
- **Innovation for Growth** - to develop food and other related agricultural products and services that capture opportunities in diversified domestic and global markets

Departmental PRIORITY

Expanding international opportunities for the Canadian agri-food sector

END OUTCOMES

- Increased exports of Canadian agriculture and agri-food products
- Increased domestic market share of Canadian agriculture and agri-food products
- Increased domestic and foreign investment in Canada's agriculture and agri-food sector
- Increased influence in the development of international technical standards and policies



PERFORMANCE INDICATORS

- Change in international market share of Canadian exports (trade volume & value by targeted market and province/territory of origin)
- Change in domestic market share of Canadian agriculture and agri-food products (trade volume & value) by targeted market and province/territory of origin
- Change in volume and value of domestic and foreign investment in Canada's agriculture and agri-food sector by market and province/territory of origin
- Changes in international partners' support for Canada's positions at agricultural negotiating sessions, and other multilateral fora

APF INTERNATIONAL LOGIC MODEL (continued)

IMMEDIATE/ INTERMEDIATE OUTCOMES	PERFORMANCE INDICATORS
Gaining recognition and building markets: • Increased recognition of Brand Canada in targeted markets • Joint industry-government Brand Canada marketing and communication campaign implemented • Industry engagement in strategy development, including Brand Canada strategy • Increased awareness of global market demands and opportunities by industry and government • investment climate and services that attract and retain investment commensurate with supply capacity • integrated sector capability to respond to market demands for safety, quality, environmental responsibility • sector market strategies increase recognition of enhanced capabilities • market policy environment that supports sustainable sector value chain development	• Change in recognition and perceptions of Canadian products and system capacity in targeted market • Change in the number of industry representatives participating in government initiatives • Change in awareness of global market demands and opportunities • Change in awareness and perception of foreign and domestic investors • Change in value/volume of sales by domestic industry sectors (Grains & Oilseeds; Red Meat; Poultry; Dairy; Horticulture; Special Crops; Food manufacturing, Food Services and Retail; Fish & Seafood; Functional food/Neutraceutical; Alcoholic Beverages)
Improving market access: • Foreign countries are committed to open markets and reduction of trade distorting domestic support in other countries	• Change in level of trade distorting domestic support by country
Overcoming technical barriers: • Efficient resolution of technical market access barriers • Multilateral standards influenced in line with Canadian priorities • Market Access Protocols (MAPs) negotiated with key trading partners	• Number of barriers eliminated/reduced • Value of trade contingent on barriers being eliminated/ reduced • Number of MAPs in place and value of associated trade
Enhancing international development: • Increased participation by developing countries in trade negotiations • Increased developing countries' capacity in agriculture in line with APF priorities	• Change in the ability of developing countries that are involved to participate meaningfully in trade negotiations • Change in the agriculture capacity of developing countries

APF INTERNATIONAL LOGIC MODEL (continued)

DELIVERABLES	PERFORMANCE INDICATORS

Guiding recognition and building markets:
• Branding campaign
• Canada's reputation benchmarked
• Strong industry/government partnerships through value-chain roundtables
• Partnerships with national and international development agencies in key emerging markets to gain recognition of Brand Canada
• Increase foreign market services to Canadian industry, including:
  • Trade and investment promotion, missions to other countries
  • Technical marketing assistance (e.g. CIGI, CMBTC, VCEN)
  • Export counselling, workshops, seminars and training
• Integrated legislative and policy framework
• Market research reports, trade data/database, country profiles, market overview, studies on investment opportunities and issues for the industry
	• "Yes or no", depending if the deliverable has been completed or not
	• Number of strategic partnerships
	• Client satisfaction
	• Number of requests for services
	• Number events, missions
	• Number and value of technical assistance projects
	• Number of sessions, workshops, seminars and training
	• Number of reports, publications,

Improving market access: • Strong network in place to support international advocacy activities domestically and internationally • Canada-Chile Free Trade Agreement, Canada-Costa Rica Free Trade Agreement and WTO CoA implemented • Communications to stakeholders to raise awareness of negotiating process • Other countries' position analyzed and potential allies identified • MOU with DFAIT to deploy additional in-market trade and technical specialist to countries	• Number of potential allies identified

APF INTERNATIONAL LOGIC MODEL (continued)

DELIVERABLES (continued)	PERFORMANCE INDICATORS (continued)
Overcoming technical barriers: • Favorable rulings on legal actions taken against Canada • Agreements between countries to eliminate/reduce market barriers and reduce foreign agricultural tariff reductions • Improved market access protocol (MAP) negotiating capacity • Trade and policy advice on technical trade issues in response to emerging international trends and the APF direction • Early warning system for emerging technical trade issues to be disseminated to domestic stakeholders • Articulated Canadian position in multi-lateral technical fora	• Number of litigations • Number of agreements • Number of trade issues advanced/resolved
Enhancing international development: • International technical assistance projects advanced, e.g., PFRA/CIDA projects in Egypt, Ethiopia and China • New assistance projects developed, approved and ready for implementation • International development strategy • Potential market opportunities identified	• Number and value of international assistance projects • Number of market opportunities identified

APF INTERNATIONAL LOGIC MODEL (continued)

ACTIVITIES

Gaining recognition and building markets:

- Develop an action plan for branding and marketing Canada
- Develop a consistent branding communication strategy
- Building partnerships to develop and implement Brand Canada
- Conduct surveys and research of market demands and benchmarking activities
- Support trade and investment missions and develop travel strategy
- Provided enhanced and extended technical marketing assistance to industry (e.g. CIGI, CMBTC, VCEN)
- Develop strategy for exporter services and preparedness
- Provide trade and investment promotion services
- Organize value-chain roundtables and meetings to develop strategies with industry, FPT, international institutions,
- Review of existing tools and processes and potential new ones developed
- Management of client management system database
- Provide policy analysis and advice relative to legislation (e.g. CGA, SAGIT)
- Provide market demands information to Food Safety and Quality and to Environment Teams
- Analysis of other countries' positions to ensure development of optimal strategic alliances
- Conduct research, polling and consultations to improve understanding of market growth opportunities
- Collect and provide information through posts and ATS networks
- Intergovernmental and interdepartmental coordination of International market development

Improving market access:

- Implementation of Canada-Chile Free Trade Agreement, Canada-Costa Rica Free Trade Agreement and WTO CoA
- Management of the Agreement on International Trade (AIT)
- Multilateral, regional and bilateral negotiations with WTO, FTAA, and other trading partners
- Extensive consultations with selected developing countries to find common approach to key negotiating issues
- Establish capacity to address multilateral and bilateral trade issues
- Build capacity to respond to legal negotiations
- Build strategic alliances and partnerships to support the global trading system and to advance Canada's international trade interests
- Develop strategic international policy
- Advocacy of Canada's position by specialists in posts abroad and strategic partners
- Negotiate MOU with DFAIT to put more agents abroad
- Support industry-led advocacy efforts for trade liberalization

APF INTERNATIONAL LOGIC MODEL (continued)

ACTIVITIES (continued)

Overcoming technical barriers:

- Defense of Canadian policies and programs
- Trade litigation
- Develop bilateral MAPs in partnership with portfolio organizations and other government departments
- Negotiations with key trading partners
- Identify and establish negotiation priorities and multi-year work plans, in consultation with partners
- Provide trade policy advice on technical trade issues
- Identify and analyze of emerging issues which could develop into barriers to trade
- Identify legitimate technical trade requirements for use by Food Safety and Quality and by Environment Teams in identifying action required

Enhanced international development:

- Program management of joint projects, e.g. PFRA/CIDA projects in Egypt, Ethiopia and China
- Developing and executing assistance projects, e.g. water management in Iran
- Receive and review project funding proposals / prepare funding agreements
- Work with domestic- and international-funding agencies to develop and implement projects
- Identify market and alliances opportunities
- Policy research and analysis

Conclusion

Of all Canada's economic sectors, agriculture and agri-food is unique in its close ties to the natural world and its continuing dependence on people to preserve farming as their way of life. The links between the economic, environmental, and social aspects of farming have been understood from the beginning, and sustainable development was a goal long before the concept was ever formalized. In the latter half of the last century, this goal was sometimes eclipsed by production pressures. The modern focus on sustainable development, both internationally and at home in Canada, has helped rebalance our thinking and encouraged us to be much more far-sighted in our view of the sector's work.

Progress toward sustainable agricultural production and processing is not possible without strong partnerships. We honour the commitment to change demonstrated by producers and processors, and depend on them to take up the new technologies and best practices that will ensure their viability and success into the future. We value the partnerships we have with our provincial and territorial counterparts, recognizing that Canada is a vast country with regional differences that are best understood by the people living in the various regions.

Achieving progress in sustainable development is a process of continuous improvement. In the time since Agriculture and Agri-Food began work on our first sustainable development strategy, we have grown in our understanding of what sustainable agriculture will look like and how it can be realized. We have come to understand the value of having a departmental management system that undergirds our sustainable development goals and brings commitment on the part of all our senior managers. We're also getting better at using logic models that make a better connection between the outcomes needed to support our SDS objectives and goals, and the targets that must be reached in order to produce these outcomes.

We are pleased to have come to the point that our governing departmental policy, the Agricultural Policy Framework, and our sustainable development strategy are one and the same. This shift brings us to a new stage of maturity, transforming the way the Department works and directing all our efforts toward sustainable development. We anticipate the benefits this transformation will bring—streamlining of our work, better communication and cooperation among ourselves and with our partners, and greater success in reaching our SDS goals. We commit ourselves in a new way to the vision of a sustainable agriculture and a sustainable Canada, and look forward to the time, three years from now, when we will be able to report definitively on our progress toward making this vision a reality.

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ANNEX A

Vision for 2025 – The New Canadian Reality

Canada in 2025 is a country where sustainable development is not just an ideal, it is a way of life. Canadians recognize and accept that the decisions they make in their homes, workplaces and communities are crucial to the long-term health and welfare of people, wildlife and the earth itself. They understand that adopting sustainability principles are essential to social progress and continued economic development – the keys to ensuring all members of the community enjoy a high standard of living and quality of life.

People make smart choices, based on the latest scientific evidence, new and traditional knowledge, and best practices shared throughout Canada and around the world. All citizens do their part to reduce greenhouse gas emissions, conserve energy and water, and ensure their buying habits and lifestyle choices protect the health and safety of life on our fragile planet. Government sets the standard - and has its own house in order, leading by example.

Expansive tracts of land and shore, a kaleidoscope of landscapes, are protected and preserved for the enjoyment of present and future generations. Innovative and environmentally-responsible production methods protect and manage the natural resource base for economic and social development. Canada's natural resource sectors - agriculture, fisheries, forestry, minerals and metals, oil and gas - employ sustainable practices and complement 21st century fields such as aquaculture, biotechnology, renewable energy, telecommunications and agri-food that utilize leading-edge research to produce safe, high-quality foods as well as environmentally-sound commercial products and services. The Government of Canada remains committed to the overarching goal of fiscal sustainability in support of long-term economic growth and intergenerational fairness. Canada's commitment to sustainability attracts and retains talent, because this is the best place in the world to live, do business and invest. Canadians' creativity in developing solutions to challenges like climate change have created new markets for Canadian goods and services around the globe.

Children and youth grow up in safe homes, and all citizens feel secure in their communities. Canadians of all ages are equipped with the necessary education and training to succeed in the knowledge-based economy. Everyone – regardless of race, national, or ethnic origin, colour, religion, sex, age, or disability – has an equal chance to participate fully in, and contribute to, the economic, social and civic life of our nation. Aboriginal people are realizing their full potential and pursue their ways of life within their chosen governance and economic structures. People of all faiths and cultures come together to celebrate our rich heritage and to ensure this legacy is passed on to the next generation.

Canada's contribution to sustainable development in developing countries will ensure a more secure, equitable and prosperous world, resulting enhanced social services, progress towards gender equality, improved environmental sustainability, and better governance. We collaborate domestically, and with the international community, to build capacity and harness the power of partnerships. All sectors work together for the betterment of the environment, economy and society at large. Because this is the Canada, the world and the future we want for ourselves and our children.

Annex B

DEPARTMENTAL PROGRESS ON SDS II

Agriculture and Agri-Food Canada's second sustainable development strategy, *In Harmony with Nature II*, was released in February 2001. The following table outlines the commitments made under each of the strategic objectives, along with steps taken by the Department to fulfil these commitments.

1. ENVIRONMENTAL SUSTAINABILITY OF OUR NATURAL RESOURCES

SDS OBJECTIVES	DEPARTMENTAL COMMITMENTS	DEPARTMENTAL ACCOMPLISHMENTS
1.1 Improve the health of our soils.	To work with the sector and with stakeholders to increase the sector's capacity to manage soil resources and adopt conservation practices. To conduct research and development activities to develop innovative practices, technologies or management practices, and to increase our understanding of factors affecting soil health. To engage in education and awareness activities to promote best practices and demonstrate their effectiveness to the sector. To evaluate policy options that could enhance the sector's capacity to manage soil resources.	Integrated 20 projects into five national studies as follows: 1) Understanding processes affecting soil quality; 2) Characteristics of Canadian soil resources for environmental assessment in the landscape; 3) Sustainable agriculture land use; 4) National soil resource interpretations for improved land-use planning and decision making; and 5) National network of long-term reference and benchmark sites to evaluate changes in the soil environment.

1.1 Improve the health of our soils. (continued)		Under the APF Environment chapter, AAFC has committed to funding not just research projects but a range of beneficial management practices by farmers across Canada under the Agricultural Policy Framework (APF) National Farm Stewardship Program. AAFC is working to develop programming such as Environmental Farm Planning and the Greencover Canada Program that works to enhance the sector's capacity to manage soil resources. Under CARD: • Environmental Farm Planning (EFP) initiative worked with farmers to put in place the tools necessary to develop plans. Several provinces have already begun to develop EFPs. • Agricultural Environmental Stewardship Initiative (AESI) increased the use of best practices by producers to address regional impacts of issues related to soil health such as salinisation, compaction and erosion.

1.2 Improve the health of our water.	To work with the sector and with stakeholders in targeting areas of intensive crop and livestock production in order to enhance their capacity to reduce risks of water contamination by manure or nutrients. To conduct research and development activities to develop innovative practices, technologies, or management practices, and to increase our understanding of factors affecting water quality and availability. To engage in education and awareness activities to promote best practices and demonstrate their effectiveness to the sector. To evaluate policy options that could improve public access to good quality, secure water supplies.	Integrated about 72 projects into seven national studies as follows: 1) Enhanced understanding of nutrient cycling dynamics in soil; 2) Safe and efficient management of manures and other organic amendments; 3) Safe and efficient use of inorganic and organic fertilizer products; 4) Impacts of agriculture-food production systems on water resources; 5) Beneficial (agricultural) management practices to preserve/improve water resources; 6) Large-scale spatial and temporal trends in water resources as affected by agriculture; and 7) More effective use of plant-microbe interactions for nutrient management. Under the APF Environment chapter, AAFC has committed to funding not just research projects but a range of beneficial management practices by farmers across Canada under the APF National Farm Stewardship Program. Under CARD: • Environmental Farm Planning (EFP) worked with farmers to put in place the tools necessary to develop plans. Several provinces have already begun to develop EFPs. • Agricultural Environmental Stewardship Initiative (AESI) increased the use of best practices by producers to address regional impacts of issues related to water quality such as management of soil, manure, nutrient, pest and food processing waste. Through the Agricultural Policy Framework, AAFC is working to develop such programming as the National Land and Water Information Service (NLWIS) and the National Water Supply Expansion Program (NWSEP) to enhance the sector's capacity to manage water resources.

1.3 Improve the health of our air.	To work with the sector and with stakeholders to reduce agricultural emissions that affect air quality, the ozone layer, and climate change. To conduct research and development activities to develop sustainable farming systems based on innovative practices, technologies, or management practices, and to increase our understanding of factors affecting air quality, climate change, and their impact on agriculture. To engage in education and awareness activities to promote best practices and demonstrate their effectiveness to the sector. Information will be provided to the sector on ways to optimize production and minimize negative impacts on the environment. To evaluate policy options that could enhance the sector's capacity to mitigate impacts on air and on the ozone layer, and adapt to climate change.	Three national research programs have been developed as follows: 1) Reducing greenhouse gas emissions from agricultural sources; 2) Reducing the exchanges of airborne pollutants between farming systems and the atmosphere; 3) Adapting the agri-food sector to climate variability and change. Under the APF Environment chapter, AAFC has committed to funding not just research projects but a range of beneficial management practices by farmers across Canada under the APF National Farm Stewardship Program. Under CARD: • Climate Change Skills and Knowledge Initiative supported carbon sequestration activities and greenhouse gas emission reduction working with partners such as the Soil Conservation Council of Canada (SCCC). • Climate Change Funding Initiative for Agriculture (CCFIA) was delivered in partnership with the Canadian Agri-Food Research Council to increase scientific knowledge of agriculture's greenhouse gas emissions and mitigation opportunities. • Agricultural Environmental Stewardship Initiative (AESI) increased the use of best practices by producers to address regional impacts of issues related to air quality such as: management of greenhouse gas emissions. Action Plan 2000 • Greenhouse Gas Mitigation Program (GHGMP) has created greater awareness of best management practices by working with key partners such as the Canadian Cattleman's Association (CCA), the Canadian Pork Council (CPC), and the Dairy Farmers of Canada (DFC) to deliver climate change programs to producers.

1.4 Improve agricultural biodiversity	To work with the sector and with stakeholders to increase the knowledge and understanding of agricultural biodiversity, and to demonstrate the importance of conserving this biodiversity. To invest in research and development on crop plant genetic resources as an important step in the development of new crops and new uses for traditional crops, etc. To engage in education and awareness activities to improve the conservation, sustainable use and enhancement of agricultural biodiversity.	Reorganized about 33 research projects (complete studies or forming parts of other studies) in biodiversity into five new national studies within the biodiversity theme with defined team outcomes and deliverables. These new studies involve plant, microbe and invertebrate taxonomy; genetic (plant and microbe) resources; agro-ecosystem management; and bio-information delivery. Studies to develop best management practices for cropping systems, including the development of production systems for new crops and new opportunities for existing crops, are underway within Sustainable Production Systems. Under CARD: • Agricultural Environmental Stewardship Initiative (AESI) increased the use of best practices by producers to address regional impacts of issues related to habitat and biodiversity such as supporting the understanding of regionally specific wildlife habitat issues and promoting the application of habitat friendly practices.

1.5 Improve the conservation of natural biodiversity	To work collaboratively with the sector, with other federal departments and agencies, with provincial governments, and with other stakeholders. To provide leadership in strengthening Canada's biodiversity science and networking capacity.	Plant Gene Resources of Canada along with external Canadian partners (private industry and non-governmental organizations) have initiated a number of projects (funded by AAFC, Matching Investment Initiative and external partners) to improve the conservation and understanding of natural biodiversity. The Germplasm Resources Information Network-Canada (GRIN- CA), created by Plant Gene Resources of Canada to manage all information generated in the Canadian plant germplasm network. This centralized information system supports a distributed repository system and makes the information accessible to national and international clients via the Intranet and Internet. AAFC researched the application, development and use of informatics in biology, systematics and biodiversity sciences. Strategic documents from a Canadian Biodiversity Network Conference held in Ottawa March 2001, were used to establish a federal co-ordinating partnership with eight participating departments. Together, they have started work to implement a pilot Canadian Biodiversity Information Facility web portal with key biodiversity data. Biodiversity conservation and enhancement on land AAFC administers: 1) Completed eight bio-physical inventories on AAFC pastures. 2) 75 percent of the rangeland assessed is in good to excellent condition. 3) Participated in eight co-operative conservation projects. 4) Eight wildlife management plans will be completed for each bio-physical inventory completed in 2002-2003. 5) AAFC is now a member of six species at risk recovery teams.

2. PROSPEROUS AND VIABLE SECTOR IN A SUSTAINABLE MANNER

SDS OBJECTIVES	DEPARTMENTAL COMMITMENTS	DEPARTMENTAL ACCOMPLISHMENTS
2.1 Improve productivity through eco-efficiency	To partner with other departments, the sector, and stakeholders to increase understanding and awareness of eco- efficiency and to encourage development and adoption of eco-efficiency management tools, technologies, and practices.	Integrated about 72 projects into seven national studies as follows: 1) Enhanced understanding of nutrient cycling dynamics in soil; 2) Safe and efficient management of manures and other organic amendments; 3) Safe and efficient use of inorganic and organic fertilizer products; 4) Impacts of agriculture-food production systems on water resources; 5) Beneficial (agricultural) management practices to preserve/improve water resources; 6) Large scale spatial and temporal trends in water resources as affected by agriculture; and 7) More effective use of plant-microbe interactions for nutrient management. Under CARD: • Agricultural Environmental Stewardship Initiative (AESI) has improved eco-efficiency through the promotion of best management practices and increased sustainable production.

2.2 Improve investment, market access, and market development for agriculture and agri-food products, technologies, and knowledge that contribute to sustainable agriculture.	To assist the sector in achieving a favourable business climate by integrating sustainable development principles into its investment strategy, through the analysis of the sustainable development business climates of selected nations and by addressing barriers to trade.	Market and Industry Services Branch (MISB) contracted a study on: Non-Food/Non-Feed Industrial Uses of Agricultural Products — Assessment of Market Potential. The study was completed and has been available electronically since June 2002. The study has identified BioFuels, Platform Chemicals, Bioplastics, Adhesives, and Biopesticides as most promising sectors for Canada. These sectors are further analysed in a phase II study that will provide additional market research and possible strategies. The phase II study is planned to be completed in July 2003. BioProducts Canada (BPC), created in 2001, is an industry-led, not-for-profit coalition funded by the private and public sectors. BPC identifies the market demand for products needed now and in the future. This will result in funding, research and commercialization of bio-based products sourced from the agriculture, forestry and aquaculture sectors. Funding of about $1.2 million was approved from the Matching Investment Initiative Fund for 47 projects in 2000-2003. The projects focussed on the development of environmental sustainable approaches to crop and animal production including sustainable technologies, product, and processes. AAFC activities in fractionation include working with oilseed processors to facilitate their development of bio-diesel fuel as well as technology transfer regarding the development of bio-active ingredients from corn fractionation.

3. CONTRIBUTE TO SUSTAINABLE COMMUNITIES

SDS OBJECTIVES	DEPARTMENTAL COMMITMENTS	DEPARTMENTAL ACCOMPLISHMENTS
3.1 Reduce risk in pest management	To work with the sector and with stakeholders to reduce risk from pest management. To support research and development activities, and increase our understanding of pest control in agriculture. To engage in education and awareness activities to promote integrated pesticide management and best practices. To evaluate policy options that could enhance the sector's capacity to facilitate the introduction of reduced-risk pest control products.	Integrated about 75 projects into eight national studies as follows: 1) Development of biological control strategies for insects, diseases and weeds in integrated pest management (IPM) programs; 2 Development of reduced risk technologies and best management practices for management of insect and mite pests of fruit and greenhouse crops; 3) Development of reduced risk technologies and best management practices for management of insect and mite pests of field crops; 4) Development of reduced risk technologies and best management practices for management of plant diseases; 5) Biology, ecology and development of reduced risk technologies and best management practices for weeds and invasive plants; 6) Development of methods and mechanisms for assessing pest populations, forecasting pest outbreaks, and assessing IPM adoption; 7) Research on biology and ecology of insect and mite pests and their identification for use in IPM; and 8) Research on plant pathogen biology, etiology and host relationship for use in IPM.

3.1 Reduce risk in pest management (continued)		In 2002-2003, two new programs were established in support of the Government's overall approach to advancing federal pesticide management and improving the agriculture sector's capacity for environmental stewardship: the Minor Use Pesticides program and the Pesticide Risk Reduction program. The Minor Use Pesticides program will co-ordinate and manage the development of regulatory submissions to the Pest Management Regulatory Agency (PMRA) for minor use pesticides including the conduct of field trials and laboratory analyses to generate the required data for new minor use pesticide uses. In addition, research will be funded to support the introduction of minor use pesticides that pose a reduced risk to the environment, by addressing issues such as resistance management and secondary pest invasions. Under the Pesticide Risk Reduction program, commodity-based risk reduction strategies will be developed to foster the use of reduced risk and minor use pesticides, and the adoption of alternative pest control approaches, such as integrated pest management, that reduce pesticide risks to health and the environment.

3.2 Encourage informed public dialogue on agri-environmental issues	To work with the sector and with stakeholders to provide information and knowledge for informed land management decision making. To provide information on the sector's progress toward sustainable agriculture and agri-food production.	Building on previous work that led to the publication in February 2000 of the first comprehensive assessment of Canadian agriculture's environmental performance, *Environmental Sustainability of Canadian Agriculture: Report of the Agri- Environmental Indicator Project*, AAFC, through the National Agri-Environmental Health Analysis and Reporting Program (NAHARP), has expanded its efforts in this area of work and plans on publishing an update of that report by 2005 (five years after the first report) and releasing a more comprehensive report in 2008, which will include new indicators. The NAHARP program includes three complementary approaches: 1) developing a comprehensive set of science-based agri- environmental indicators; 2) linking these agri-environmental indicators with economic information to project future environmental outcomes and assess current and planned programs and policies; 3) assigning a monetary value to the costs and benefits of agri-environmental impacts.

3.3 Develop healthy innovative products	To work with its partners and with other stakeholders to position Canada as a world leader and centre of excellence in the research, production, and marketing of innovative, safe, high-quality, environmentally friendly and efficacious functional foods and nutraceuticals.	Funding averaging $1.2 million per year was approved by the Matching Investment Initiative Fund for 40 projects with a focus on the food components with potential impact on human health. AAFC is following the work of Health Canada's Functional Food Policy Committee (FFPC) and its sub-committee on product classification. Their objective is to develop a product classification system and interim policy for product specific health claims for foods in order to develop an effective longer-term policy framework for dealing with products that cross current regulatory structures (i.e. are both a drug and a food). AAFC has initiated a series of "armchair sessions" for food regulators to provide an opportunity for them to meet leaders in new food product development and to gain insight into the latest technologies, products and processes being developed both domestically and internationally. AAFC managers and scientists attended the International Conference on the Long Term Surveillance of Genetically Modified Organisms held by Health Canada in October 2002. Subsequent meetings organized in 2002 and 2003 by Health Canada, addressed the potential for collaboration between Health Canada and AAFC. AAFC scientists and marketing officers provided a submission to Health Canada commenting on the proposed Natural Health Products Regulations.

3.3 Develop healthy innovative products (continued)		AAFC completed four reports that resulted in numerous initiatives and opportunities to promote the Functional Foods/Nutraceuticals sector within the Government and to the public. These reports were: • The Potential Benefits to the Agriculture Industry from Functional Foods and Nutraceuticals • Potential Savings to the Health Care System from Functional Foods and Nutraceuticals • An Analysis of Competitor Funding Strategies in the Functional Food and Nutraceutical Sector (internal working document) • Research Bench to Commercialization Case Studies (internal working document)

4. SUSTAINABLE DEVELOPMENT INTEGRATED INTO DEPARTMENTAL POLICIES, PROGRAMS, AND OPERATIONS

SDS OBJECTIVES	DEPARTMENTAL COMMITMENTS	DEPARTMENTAL ACCOMPLISHMENTS
4.1 Integrate sustainable development principles into policy and program development	To educate its policy analysts and senior management about sustainable development to ensure that they have the knowledge, capacity and contacts to consider economic, social and agri-environmental principles when providing policy, program, or legislative advice. To review departmental policies, programs, and legislation from a sustainable development perspective and co-ordinate with other departments in integrating sustainable development analysis into policy. To produce and publish analyses of key policy options and initiatives and then review how this information was used to improve the outcomes of sustainable development activities.	AAFC will establish and initiate a training program for Environmental Assessment and Strategic Environmental Assessment. Reviewed and updated departmental Strategic Environmental Assessment Guide. AAFC started consultations with stakeholders from various sectors on developing a policy that responds to the commitment made in June 2001 by the federal/provincial/territorial ministers of agriculture agreement (in principle) to work toward a comprehensive plan for accelerated environmental action and sustainable development.
4.2 Practice green procurement	To promote the purchase of environmentally responsible goods and services.	Procurement delegations and delivery models within AAFC have been under review for some time and as a result significant changes have been made and are still occurring. Training requirement needs are currently being assessed and any resulting training program will address green procurement considerations.

4.3 Improve waste management	To use waste-auditing tools and procedures to identify opportunities for waste reduction. To develop and implement a waste reduction action plan. To institute separate waste streams at sources where such services are operationally and economically available and feasible. To compost organic waste whenever possible. To encourage electronic communication, to reduce paper use.	During the period, one facility was audited. Over the previous and current period, when and where feasible, action items and identified opportunities to reduce waste have been implemented at the audited facilities.
4.4 Improve waste and wastewater management	To identify water saving opportunities. To develop and implement water conservation plans and optimize water efficiency To consider water-efficiency equipment for future purchases, to reduce water use. To use grey water for landscaping and irrigation when feasible.	During the period, one facility was audited. Over the previous and current period, when and where feasible, action items and identified opportunities regarding the management practices of water usages and wastewater generation have been reviewed and implemented at the audited facilities.
4.5 Improve building management	To review energy use. To develop energy management plans. To provide the necessary training in energy efficiency for building operators and managers. To implement all economically attractive energy retrofits.	Two facilities were audited. Over the previous and current period, when and where feasible and cost effective, action items and identified opportunities have been implemented at the audited facilities.

4.6 Improve fleet management	To manage fleet vehicles in accordance with economic and environmental objectives outlined in Treasury Board's Motor Vehicle Policy. To maximize fuel efficiency and alternative fuel use. To reduce the number of vehicles and the kilometres travelled for departmental use. To purchase vehicles of appropriate engine size for intended use. To test emissions and maintain vehicles regularly.	Updated annual departmental report. Over the period, AAFC acquired 126 vehicles total, and 112 of these units are operating with ethanol blended fuel (E85).

4.7 Improve land management	To identify, classify, and assess sites of concern. To manage risks to human health and the environment using risk assessment and techniques for containment, mitigation, and remediation. To review leasehold agreements between federal and private interests to ensure that they contain appropriate arrangements to prevent contamination.	Updated annual departmental contaminated sites inventory. Updated annual departmental storage tank inventory. Also, for the reporting period added five new dedicated storage tanks and one new dedicated storage tank with a compartment for the storage of ethanol blended fuel (E85).